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EDITED BY

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ORIGINAL CONTRIBUTIONS.

Obstetrics and Gynecology.

BY B. BERNARD BROWNE, M. D., BALTIMORE, MD.

Reported to the Maryland State Medical Society.

IN preparing the report on the progress of Obstetrics and Gynecology during the past year, I have endeavored to bring in review some of the most important subjects, and especially those which are likely to have an established practical value. In pursuing this course, I have for want of space, been compelled to leave unnoticed some rare and novel operations, and others which have only a theoretical existence.

UTERINE THERMOMETRY.

As an aid to the diagnosis of pregnancy in the early months, the use of the thermometer has given valuable assistance.

Schroeder has derived the following conclusions from his observations: If it be found that the temperature of the uterus be higher than that of the vagina, that such excess is derived from the warmth produced by the fœtus, that pregnancy having been known to exist, we may infer that death of the fœtus has taken place when we find no difference between the temperatures of the uterus and vagina.

Schlesinger gives as the result of his investigations on this point, that the uterine cavity both pregnant and non-pregnant, possesses a higher temperature than the vagina, but the gravid uterus is of a higher temperature than the

non-gravid, and the parturient uterus has a higher temperature than the non-parturient.

I have had an opportunity of making observations with the thermometer within the past year upon six women in the early months of pregnancy. The temperature in the cervical canal was about $1\frac{1}{2}^{\circ}$ higher than in the vagina, and one degree higher in the vagina than in the mouth.

RETAINED PLACENTA AFTER ABORTIONS, MISCARRIAGES AND LABOR.

This subject has, during the past year, received considerable attention in this country and abroad. Valuable papers have been written upon it by Simpson, Loomis, Lusk, Barker and others.

At one of the meetings of the New York Obstetrical Society Dr. J. H. Pooley asked the following question:

In cases of early abortion, if the placenta is retained after expulsion of the fœtus, and there is no hemorrhage, how long is it safe to wait before the removal of the placenta by artificial means?

Dr. Skene said, that so far as his own practice was concerned, he would not wait more than five minutes in cases in which the os was fully dilated. He had always taken care that every portion of the ovum should be removed as quickly as possible, in order to protect the patient from the dangers of septicæmia. When there was complete dilatation, he did not wait for the effect of the ergot, but at once removed the contents of the uterus by means of a loop of soft flexible wire, a flexible curette, and he had never had any occasion to regret such practice. If there were symptoms of hemorrhage, because of imperfect contraction of the uterus, then ergot could be administered with advantage. When the cervix was closed, he could wait only just long enough to dilate it, before removal of the placenta.

Dr. Nœggerath indorsed the views expressed by Dr. Skene. He regarded it as the only safe practice to remove the placenta at once if the cervix was dilated; and if it was not dilated, to immediately produce dilation, so that the placenta could be immediately removed. There were conditions, however, in which it was impossible to strictly follow out these rules. If, for instance, the miscarriage had lasted a couple of days or more, the doctor was called and found that the woman had lost a large quantity of blood; she had been exsanguinated at the

time the foetus was expelled and was in a state of collapse. Under such circumstances, he would dislike to perform the operation, especially when the cervix was not sufficiently dilated to permit the easy removal of the placenta. Those were the cases probably in which the operation could not be performed, and yet they were precisely the cases in which there was the greatest danger in waiting, for, if the patient was anemic or in a condition of exhaustion, the chances of consecutive septicemia were increased ten-fold.

Under such circumstances the physician could be guided only by common-sense principles which govern the management of individual cases.

We should wait in those cases, however, only such length of time as is absolutely necessary before making an attempt at removal of the placenta. It was only in such cases that delay was indicated.

Dr. T. Gaillard Thomas thought that the question asked by Dr. Pooley was not so easily answered, but that he had asked one of the knottiest question in obstetrics. It was certainly one of the most difficult of questions to answer at the bed side. His feeling was that the time which we could leave the placenta in the uterus with safety could not be estimated. For, as soon as decomposition of the placenta began to take place, septicemia might occur, and, when that morbid process was developed, removal of the placenta would not arrest it.

If the woman is bleeding in consequence of retained placenta, he never invades the cavity of the uterus. His plan is to avail himself of the hydrostatic pressure of the blood by tamponing the vagina after Sims' method, when the blood will percolate between the decidua, rip off the placenta form a large clot, in the uterus, subsequently to be expelled by uterine contraction. If the placenta is not expelled with the clot, the cervix will be so dilated that an instrument can be readily introduced, and the mass removed.

If there is evidence of septicemia, he is in favor of dilating the cervix, so that the placenta can be immediately removed.

When the subject lately came before the New York Academy of Medicine, Dr. Thomas said that he was not only surprised, but a little shocked to find so many men

who were in favor of allowing the placenta, as a rule, in these cases to remain undisturbed.

Dr. Skene further remarked that the sooner the uterus is emptied, the sooner can the physician feel that the woman is safe.

If the cervix is not dilated, which is rather a rare occurrence, and there is no hemorrhage it should be dilated at once, and the placenta removed. If hemorrhage exists, he would tampon the vagina, and, if need be, the cervix. For the rapid and forcible dilatation of the cervix in these cases, Hank's hard rubber dilators are more certain and reliable than any that have come into use.

THE DIAGNOSIS AND TREATMENT OF OBSTETRIC CASES BY EXTERNAL ABDOMINAL EXAMINATION AND MANIPULATION.

Dr. Paul F. Munde has recently contributed a very elaborate article on this subject, which heretofore has been little known and seldom taught in the medical schools in this country, although its value and importance has been fully appreciated by all German Obstetricians. And the practice of this external examination and manipulation is therefore taught in all the German schools, before, and almost in preference to internal examination, on account of the greater readiness with which the women submit to it. In Germany by no physician in private or hospital practice would think of giving a definite opinion on an obstetrical case, either with reference to diagnosis, prognosis, or treatment, without having controlled the results of his exploration per vaginam, by the external palpation, inspection and auscultation of the abdomen. That the position of the child can be ascertained with much greater certainty and often only in this manner, that errors in diagnosis and treatment are much more easily avoided, and particularly abnormal conditions detected with greater facility by external manipulation than by internal examination alone, are facts which no one who has had sufficient opportunity to practice the procedure, will attempt to deny. For the purpose of diagnosis, he distinguishes several practical sub-divisions of the procedure, each of which in a measure controls and supplements the others, and which all together tend to give certainty to the examination. These are: inspection, palpation, percussion and auscultation of the abdomen.

Dr. Ludwig Bandl, of Vienna, has recently pointed out

a phenomenon recognizable by inspection of the abdomen during labor only, which is of considerable practical importance. He found that in those cases where there exists an abnormal obstacle to the expulsion of the child, such as contracted pelvis, malposition of the child, etc., a distinct transverse furrow appears on the abdomen, about midway between the umbilicus and pubes, just at the junction of the cervix and body of the uterus. This furrow is produced by the wedging in of the cervix into the brim of the pelvis by presenting part, and the concomitant fruitless concentric contractions of the uterine body. It occurs only in abnormal labors, and affords a valuable indication as to the time and necessity for operative interference, for obviously to undue continuation of this condition would very readily result in the production of a rupture of the uterus. Indeed, Bandl first witnessed this sign after such an accident. In normal labors, the presenting part passes into the pelvic cavity and fills out the cervical canal equally, thus preventing the occurrence of a transverse furrow. He has seen this furrow in several cases where there was excessive pelvic obliquity and consequent anteversion of the uterus, a condition simulating in its influence on the progress of labor the minor degree of contracted pelvis.

By palpation, the period of gestation may be made out, the position of the fœtus, the head, the breach, the knees, the feet. Any abnormalities in the shape of the uterus or the presence of sub-peritoneal fibroid tumors, may be detected by palpation. The chief object of palpation, the diagnosis of the presence of a fœtus and its position is seldom possible before the end of the fifth month.

In rupture of the uterus during natural delivery, palpation gives us probably the most positive information.

If the laceration is sufficiently extensive, the fœtus usually escapes into the abdominal cavity, either partly or wholly, and is then felt with much greater distinctness than when still in the uterus, which organ contracts and occupies the side of the abdominal cavity opposite to that containing the fœtus. Dr. Mudge remarks, that if it were customary to make these external examination during the last four weeks of pregnancy, many malpresentations could be detected and corrected, many dangers might be averted, and many women forewarned, and the physician

would be enabled to remedy a difficulty, or prepare for an unforeseen accident.

"The Porro Modification of the Cæsarean Operation in Continental Europe, chronologically and analytically examined, showing the success of the new method, its advance from Italy to other countries, and its diminishing fatality under a better knowledge of the requisites for securing success, the whole statement being prepared with a view to enable our obstetrical surgeons to decide whether we should introduce this method into the United States."

This subject has been very thoroughly investigated in the above mentioned paper by Dr. Robert P. Harris, of Philadelphia, in the April number of the *American Journal of the Medical Sciences*.

The operation originated, as far as Professor Porro is concerned, in this way: On April 27th, 1875, a dwarf primipara, of four feet nine inches, entered the obstetrical wards of the Hospital of the University of Paris. She was 25 years of age, and had suffered severely with rickets in childhood, by which her pelvis was much deformed. At the end of three weeks, May 21, she was taken in labor, the waters broke with the first pains, and after these had continued in all for six hours and forty minutes, the Cæsarean operation was performed by Professor Porro, and a living female child removed. The uterus contracted, but not sufficiently to close the sinuses in the incised portion, and much blood was escaping, particularly from one edge of the wound.

Without stimulating the organs to contract by the use of the means ordinarily resorted to, or making use of sutures to stop the hemorrhage, the operator at once decided to remove the uterus, which he did with a strong iron wire and serre-nœud, placing the loop around the cervix opposite the inner os, and then tightening it. When all escape of blood ceased, he cut away the uterus by means of curved scissors, passed a long drainage tube through Douglas' cul-de-sac, tying the ends together, brought the cut cervix to the abdominal wound, and finally closed the incision with wire sutures. The woman was taken in labor at 10 A. M., Cæsarean operation began at 4:49 P. M., and lasted 19 minutes, sutures 7 minutes, and dressing 8 minutes. In four days the serre-nœud was removed, in a week all the sutures, and in forty days the

case was complete. After several months an examination showed that the pedicle of the cervix was over an inch long, and that the woman could walk, run and jump, without the production of pain.

Dr. Harris states that as far as he has been enabled to ascertain, there have been forty-one Porro operations performed in Europe. Thirty-six of these he has arranged in a tabular form, (the result of the other five not yet having been published they are omitted). Seventeen of the operations were performed in Italy, ten in Austria, six in France, three in Germany, two in Belgium, two in Russia, one in Switzerland: Total, forty-one.

If we exclude the six who evidently died in consequence of diseased conditions existing prior to the operation, we have thirty cases whose fate rested upon the effect of the knife and the skill in the after-treatment, without any special reference to the length of labor; and of these eighteen, or sixty per cent., recovered. This is the proper way to measure the absolute mortality of the operation in coming to a decision as to its relative merits when contrasted with craniotomy and cephalotripsy. If women are to be operated upon in a semi-moribund state, in order that their children may be saved alive, it is not exactly fair to set down their cases as evidence of the danger of the operation.

Examined in all its details, in different countries, and under different circumstances. Dr. Harris is of the opinion that the Porro Cæsarean operation, performed under the carbolic spray, and followed by proper drainage and the Lister treatment, will be found successful to the woman in about half of all the cases of pelvis deformity requiring its performance that are brought for relief to lying-in hospitals.

THE RESULT TO THE CHILDREN.

Of the thirty-seven children, thirty-three were removed alive from thirty-two women, and four were found dead. In the four cases in which the foetus was found dead, labor had existed respectively, five days (in two) three and a half days and seven days. In none of the Porro operations was craniotomy attempted, hence the remarkable number saved. This is in very decided contrast with the last thirty-six cases of Cæsarean section performed in this

country, in which only seventeen children were removed living, and nineteen dead.

The main objection to the Porro operation is that it entirely unsexes the woman, not only rendering her barren, but in some degree unfeminine. To this it may be answered that rachitic subjects requiring the Cæsarean section for delivery would be in a much safer position for the future, if rendered incapable of any longer begetting children.

ON THE USE JABORANDI AND PILOCARPINE IN PUERPERAL [ECLAMPSIA.

During the past year these agents have been used to a considerable extent, and many cases have been reported in which their action was most favorable.

If we turn to the essential anatomical causes of eclampsia, we find two antagonistic theories: the so-called uræmic theory, propounded by Frerichs, and whose chief advocates are Litzman and Hecker; and the theory promulgated by Traube, Munk and Rosenstein, according to which, eclampsia has no connection with diseases of the kidneys, except so far as anæmia and the pre-disposition to eclampsia are increased by albuminuria.

The *condition of the brain*, as revealed at the autopsies of those dying of eclampsia, is, in the first place, that of anæmia with more or less marked œdema, and obliterations of the convolutions; much more rarely, in about one-sixth of the cases, there has been found extensive hyperæmia.

The brain has very rarely, only in two to three per cent. of the cases, appeared to be perfectly healthy. The condition of the kidneys is, on the other hand, almost the opposite, since in 35.7 per cent. these organs have been found healthy, and in only 64-0 per cent. were there detected any decided lesions (Brummerstadt).

The comparative number of sound kidneys is therefore considerable, being more than one-third. The urine in 84 per cent. of the cases contains albumen, which is, however, very often found, not only during normal labors, but also in the urine of lying-in women suffering from no illness. Still, in many cases no albumen can be detected, even immediately before the attack. The presence of albumen in the urine is, therefore, by no means a constant phenomenon of eclampsia.

Winkel states that if we examine the two above-mentioned theories, it will be seen that those who maintain that uremic poisoning is the cause of eclampsia, assert that this affection is produced by the sudden retention in the blood of the products of the renal secretion. It should be born in mind, however, that experiments on animals have shown that injections of filtered wine into the blood did not produce any uremic symptoms whatever, not even after the kidneys had been excised. Indeed, the presence of a large amount of urea has been demonstrated in the blood of patients suffering neither from coma nor convulsions. The above facts, taken in connection with the experiments in which the urea was injected into the blood, would seem to afford sufficient proof of the harmless character of this substance, at least in regard to its influence in producing convulsions.

It is quite certain, therefore, that the theory of Frerichs is not applicable to all cases of eclampsia, and it is very doubtful, whether it can be adopted in any case whatever.

On the other hand, Traube and Munk have demonstrated, that when œdema of the cerebrum is occasioned by an increase in the quantity of serum contained in the blood, and by the tension produced in the arterial system, and is succeeded by anæmia of the brain, coma sets in, and later convulsions ensue as soon as this anæmia extends from the hemispheres to the medulla oblongata.

The existence of two causative agents has thus been established: *anæmia*, and *increased tension of the arterial system* and, two conditions of the brain are shown to be associated with eclampsia, at first the cerebral œdema, and subsequently anæmia, particularly of the medulla oblongata.

It appears, therefore, that the above theories, which attribute the causes of eclampsia to retention of certain constituents of the urine, can neither stand the test of experiments, nor of clinical observation; and quite as much ammonia has been found in the blood of healthy, as of uremic animals; moreover, the kidneys in these cases have been often found to present a perfectly healthy appearance, and it is certain that in many cases no albumen could be discovered in the urine, within a very short time previous to the attacks. Traube's explanation, on the other hand, appears to be fully verified by careful experiments; when, for instance, a ligature was

applied to both ureters of a dog, and subsequently to a jugular vein, and water injected into the carotid artery, the animal at once fell into a comatose condition, accompanied by convulsions, and very severe spasms of the most varied character. The autopsy disclosed anæmia and œdema of the brain. Test experiments have also demonstrated that when one of these conditions was absent, the convulsions did not take place.

We have at our command two classes of remedies for relieving the increased pressure on the arterial system—the true cause of eclampsia—namely: general blood-letting and a vigorous stimulation of the intestinal, urinary and perspiratory secretions by drastics, diuretics and diaphoretics. By Stille and Maish Joborandi and its active principle pilo-carpine is stated “to be the only direct and essential diaphoretic of the materia medica. And in conjunction with chloroform and morphia as a cerebral sedative, is believed to be one of the most important remedies we have in the treatment of puerperal eclampsia.

ON THE USE OF THE FORCEPS AND ITS ALTERNATIVES IN LINGERING LABOR.

The address by Dr. Barnes, delivered before the Obstetrical Society of London, and the discussion of it by eminent men from all parts of England, Ireland and Scotland, who were present, shows the importance of the subject, and the deep interest that is felt in it.

Dr. Barnes excludes from his paper the consideration:

1. Of those cases in which acceleration of labor is indicated by convulsions, by hemorrhage, and by other complications, as syncope, dyspnœa and apoplexy.

2. Of these cases in which the child is in danger from prolapse of the umbilical cord, or other causes independent of protracted labor.

This limits the discussion to the free resort of the forceps, or to its alternatives; these alternatives being understood to comprise—1st, simple inaction or expectancy; 2d, ergot or other oxytocics; 3d, the fillet or lever; 4th, compression of the uterus, or other manœuvres not instrumental.

In defining the condition which demands or justifies interference, he quotes the rules laid down by Collins; Ramsbotham, and George Johnson, which, if strictly

analyzed and compared,* will be found almost identical, although representing three distinct epochs and schools of practice. For, we find that Collins used the forceps or lever once in 607 cases; Ramsbotham once in 671 cases; Johnson once in every $10\frac{1}{2}$ cases.

When the head is arrested in the pelvis, Dr. Harnes prefers the forceps to ergot for the following reasons:

1. Because the researches of Hardy and McClintock at the Rotunda Hospital, which have been abundantly confirmed by others, have shown that unless the child was born within a short time after the action of ergot, it was likely to be born dead. 2. Because the action of ergot on the uterus is uncertain, you give ergot, and the desired result may ensue or it may not, in which case you have to fear all the danger of lingering labor, rupture of the uterus, injury to the soft parts, and the death of the child. 3. Because in a large proportion of the cases the arrest of the head in the pelvis is due to malposition of the head, in these cases the driving force is wasted, it is utterly unscientific, even dangerous to goad it by ergot. The forceps are the true and effective help. In lingering labor the necessity for the forceps above the superior straight he believes can not be frequent, and its justification must rest upon its utility and safety. He believes the operation is not without danger even in skillful hands.

A careful study of the Annals of Obstetric Practice justifies the conclusion that neglect of the forceps entails abuse of craniotomy.

Collins' Cases of Craniotomy were 1 in 211.

“ “ Forceps, 1 in 607.

Ramsbotham on Craniotomy, 1 in 802.

“ “ Forceps, 1 in 670.

Johnson on Craniotomy, 1 in 282.

“ “ Forceps, 1 in $10\frac{1}{2}$.

While Dr. Robert Lee performed craniotomy 186 times and used the forceps only fifty-three times. No one can peruse the histories of his cases without the painful conviction that in many instances the long forceps might, with advantage to the mother as well as the child, have taken the place of craniotomy. Taken in a scientific point of view, craniotomy should never be the alternative for the forceps. The dominion of this sacrificial operation is totally distinct from that of the conservative operation of the forceps.

Dr. Barnes states that there is a "scientific frontier" against craniotomy. We may never acquire it absolutely. But it exists potentially, and it is our duty to strive after it by constantly advancing the outposts of the forceps and of turning.

In concluding his address, Dr. Barnes makes the following summary:

1. In lingering labor, when the head is in the pelvic cavity, the forceps is better than its alternatives.

2. In lingering labor, when the head is engaged in the pelvic brim, and it is known that the pelvis is well formed, the forceps is better than its alternatives.

3. In lingering labor, when the head is resting on the pelvic brim, the liquor amnii discharged, and it is known, either by exploring with the hand or other means, that there is no disproportion, or only a slight degree of disproportion, even although the cervix is not fully dilated, the forceps will be better than its alternatives.

4. In proportion, as the head is arrested high in the pelvis, in the brim, or above the brim, the necessity, the utility and safety of the forceps becomes less frequent.

5. As a corollary from the preceding proposition, increasing caution in determining on the use of the forceps, and greater skill in carrying out the operation are called for.

EMMET'S OPERATION FOR LACERATION OF THE CERVIX UTERI, OR HYSTERO-TRACHELORRHAPHY.

This operation, which is generally followed by such favorable results, and is, comparatively speaking, devoid of danger, is, no doubt, one of the most important in gynecology.

Several able papers have been written upon it during the year, the most prominent of which were by Dr. Goodell and Dr. Munde. In reply to those who still think that the operation is performed unnecessarily, and that the actual cautery, strong caustics, nitrate of silver, nitric and chromic acid, and perhaps in due time milder astringents, such as tannin and iodoform, etc., may finally glaze over the ulcerated surface and cure the endocervicitis, which they admit would only be temporary, and in a few weeks the ulceration would be as bad as before:—in reply to these Dr. Munde very pertinently asks—what is the advantage of subjecting patients to a treatment extending

over weeks and months, and confinement to the recumbent posture for two or three weeks, enlivening the monotony of this course by the occasional application of the actual cautery, when all this can be obtained (the wound closed, the cervix restored to its normal shape, and the uterus certainly diminished *somewhat* in size) after less than two weeks' confinement in bed by an almost entirely safe, simple and comparatively painless operation?

Dr. Munde has had a series of colored plates of the various forms and degrees of laceration and ectropion of the cervix uteri prepared from nature. The cases of laceration were chosen to show, as nearly as practicable, without exaggeration, the typical varieties of the lesion designed to be discussed; and also one diagram of simple erosion of the cervix was added to illustrate the difference in appearance between the two affections.

DILATATION OF THE FEMALE URETHRA FOR DIAGNOSTIC PURPOSES: AND AS A CURATIVE PROCESS: WITH THE
REPORT OF SEVEN CASES.

Although dilatation of urethra was performed as far back as 1502 by Benivienni, and 1506 by Marcus Sanctus, it has only been within the last few years, and chiefly through the influence of Gustav Simon, and the improved means employed by him, that the attention of the profession has been drawn to this subject.

In this country Drs. Næggerath and Skene have also contributed largely to our knowledge in this direction. And to Dr. Skene belongs the credit of having written the first systematic work on Diseases of the Bladder and Urethra in Women.

The first case upon which I performed forcible dilation of the urethra was for diagnostic purposes, on September 4, 1874. The history of the case was this: Mrs. M., living in Baltimore County, about thirty-five years of age, passed bloody urine for more than a year, the blood increased in amount until in some specimens one-half was blood. At times she had violent attacks of pain on the right side in the direction of the ureter and colic, which was often so severe as to terminate in almost complete collapse.

During these attacks her urine would become clear and limpid, and was passed in larger quantities than usual. After using such treatment as I thought might palliate

her sufferings, and failing to benefit her, I spoke to several of my medical friends in regard to her case, and tried from time to time such remedies as they recommended without any improvement in her condition. On September 4, 1874, I put her under chloroform, and dilated the urethra until my index finger could pass in easily, the upper portion of the bladder was rough and corrugated, more particularly on the right side, and in the situation of the right ureter—the bladder was considerably enlarged. A severe hemorrhage of the bladder came on as the result of my prolonged exploration, which caused me to desist from any further examination at the time. The hemorrhage ceased in about half an hour, and I left her. In the evening a very profuse hemorrhage came and continued at intervals; during the night she passed substance that her sister described as similar to hydatids, or as she said, the skin of grapes. No further examination of the bladder was made, as the bloody urine gradually became less, and she had no more attack of the pain. My explanation of the case was that the hemorrhagic urine was caused by the presence of the hydatids in the right kidney, which at times blocked up the right ureter, and caused the attacks of kidney colic, and thus explained also why it was that during these attacks of pain the urine was always clear and limpid, for then the blood was shut off from the right kidney and only the urine from the healthy left kidney entered the bladder.

CASE 2. June 17, 1878. Mrs. T., aged about 40, had been suffering for several weeks with pain, tenesmus, and frequent urination; micturition was followed by a desire to strain, as if the organ had not been fully emptied. As she was boarding, she had at my suggestion taken a room at St. Vincent's Hospital, where I was to attend her. Before she could be removed, however, her symptoms became so urgent, that I concluded to dilate the urethra and examine the bladder before she was removed, and afterward treat her at the hospital.

On June 27, 1878, under the influence of chloroform, I examined the urethra with a urethral speculum, and found a fissure running along the floor and toward one side, extending back to the junction of the urethra and bladder, the bladder itself was thickened, indurated and contracted. I dilated the urethra with an ordinary urine dilator, sufficiently to allow the entrance of the index finger, which

was carefully passed into the bladder, which was found, as stated above, thickened, indurated and contracted. As the patient had engaged her room at the hospital, she was accordingly removed there in a few days and remained a month, but as she was entirely relieved, no further examination or local treatment was made.

CASE 3. December 28, 1878. Mrs. Blank consulted me in regard to a burning pain in the urethra, tenesmus and inability to hold her water. Upon examination two small caruncular growths were found upon the floor of the urethra; the urethra was dilated without an anæsthetic, and nothing abnormal could be detected by digital examination of the bladder. The caruncles were removed with a curette, a little soreness was complained of for a few days, but with the exception of this she was completely cured.

CASE 4. Mrs. E., aged 66, was seen at the Baltimore Special Dispensary, Department of Diseases of Women. On April 29, 1879. She had suffered for many years with pain and difficulty in urinating, tenesmus and inability to retain her urine, which dribbled away and kept her saturated with a strong ammonical odor, so offensive had this become that she was a nuisance to herself, and unpleasant to every one who came near her, she had been compelled to relinquish several good homes, where she had been employed as house-keeper and seamstress, on account of this offensive odor.

Upon examination the vulva and parts around were found to be excoriated and tender from the constant irritation of the urine. A large urethral caruncle filled the meatus. With Dr. Kierle's assistance this was removed, and no further examination was made at the time; in a few days she returned again, and although she felt better, she was not entirely relieved. Upon carefully examining the urethra a deep fissure was observed running backward from the former caruncular attachment, the urethra was now dilated and the bladder examined. It had become distended from paralysis of its muscular walls, and the mucous membrane was soft and pultaceous.

After the fissure had been relieved by the dilation, she was enabled to hold her water with comfort, the excoriations soon healed up, and a few weeks afterward she returned to report herself completely cured.

CASE 5. Mrs. S., September 23, 1879, came to the Balti-

more Special Dispensary, Department of Diseases of Women. She complained of inability to hold her water, tenesmus and burning, scalding pain in urinating. The urethra was dilated, but no diseased condition could be discovered either in the urethra or bladder, she was somewhat relieved, but not cured, her bladder trouble seemed to be reflex, and was probably caused by a lacerated cervix and cellulitis, as she did not consent to an operation for this primary trouble, she was only slightly benefited.

CASE 6. Mrs. S. was first seen in June, 1879. She had suffered frequently within the last ten years with attacks of pain in the urethra and bladder, tenesmus frequent micturition, etc. As she was suffering at the time from the effects of malaria, she was put upon quinine and other medical treatment until 6th of August. As she had improved somewhat by this time, she consented to a urethral examination, a fissure was found in the urethra, and a smaller vascular growth about midway of the urethra. After dilatation the growth was removed with the curette, and she was entirely relieved.

CASE 7. Mrs. H., aged 25, married February 7, 1880. Had been suffering for several days with painful and frequent micturition, tenesmus, etc. Upon examining her with a urethral speculum, the floor of the urethra was seen to be studded over with small warty growths. After the urethra was dilated the bladder was examined, but no diseased condition could be discovered. The small growths were removed from the urethra with a curette, since that time she has had no further trouble. The objections that had been urged against dilatation of the urethra are: rupture and incontinence, and incontinenes without rupture are liable to result. In these seven and two other cases performed for the extraction of foreign bodies, I have not seen any indication that incontinenes would result. When compared with results and dangers from using caustic applications in the urethra, it has everything in its favor. Of course it is always well to get the patient's general health in good condition, and to use urino-genital evacuants for a few days previous to and subsequent to the operation.

Purulent Inflammation of the Middle Ear and Mastoid Cells.

BY W. R. AMICK, M. D., CINCINNATI, O.

IN the December number of the NEWS, we discussed the question: Can a physician recommend a person with a perforated membrana tympani to a Life Insurance Company? In that article we did not refer to any of the causes that produce a perforation in the drum-head, but simply took it for granted, that, in a given case, there was a perforation. In the present article we propose to refer to some of the causes, and give the history of a case.

As we gave an outline of the anatomy of the middle ear in the former article, it will be unnecessary in the present one.

One of the most common causes of middle-ear diseases arises from the inflammation of the mucous membrane of the throat and nose. Inflammation of those organs may be caused by exposure to cold, either from the atmosphere or by getting wet. It may be produced by any acrid or irritating substance, or by trauma. Scarlatina, measles, small-pox, diphtheria, are prolific sources for inflammation of these parts. After the mucous membrane of either the throat or nose have become inflamed, then it may pass to the cavity of the tympanum by extending or following along the mucous lining of the eustachian tube. As the pharyngeal opening of this tube is in the posterior portion of the nasal cavity, and near the pharynx, it is very easy for an inflammation of the latter to extend to the orifice and enter the tube. After the mucous membrane of the tube has once become inflamed, it may then continue to extend until it enters the tympanic cavity, even after the pharyngeal or nasal congestion has passed away. After the lining membrane of the tube has become congested, it then, to a certain extent at least, furnishes the irritation in its own canal, which has a tendency to continue and extend the disease. This irritation is caused by the inflamed membrane lying in contact. This swollen and congested condition of the mucous membrane of the tube sometimes effectually closes up the canal, thus preventing the proper ventilation of the tympanum, or the escape of any fluid by this channel that may be confined there, and impairing the

hearing. After the inflammation has entered the cavity, it attacks all of the structures by continuation as they are lined with mucous membrane. If very severe, it may extend to the periosteum, and to the bone itself. The drum-head not only becomes congested, but its power of resistance is lessened.

An inflammation of any mucous membrane causes a secretion of fluid which, at first is mucous, then, if the action is sufficient, becomes muco-purulent and finally purulent. In inflammation of the middle ear, we have the cavity filled with fluid, and if the tube is closed and the secretion continues, there will be a rupture of the membrana tympani from the pressure of the fluid against it. Previous to, or after the rupture of the drum-head, the disease may extend to the mastoid cells. It must not be supposed that the membrana tympani is ruptured in all cases of inflammation of the tympanum, or that the mastoid cells are implicated in the majority of cases, for such supposition would not be true. When the inflammation does extend to the mastoid cells, producing great congestion and severe pain in and around the mastoid bone, then there is a liability of the disease extending to the brain.

We occasionally meet with cases in which the perforation is not due to any inflammatory action or irritation in the cavity of the tympanum or external canal, but from a want of vitality in the membrana tympani itself. This occurs in anæmic cases, especially those who are of a strumous diathesis. In one case which came under our observation, the trouble began in the dermoid layer of the drum-head, in the superior and posterior quadrant. At first there was noticed a slight redness, which was confined chiefly to this quadrant. Two days later an ulcer made its appearance at this point, about one drop of pus forming in twenty-four hours. This action continued, and in five or six days there was a complete perforation about the size of a large pin head. The various astringent local applications that were used, did not have any effect toward retarding the progress of the ulcer. The surrounding parts did not participate in, or become affected by this breaking down of the tympanic membrane. After the perforation took place, there did not appear to be any congestion or undue amount of secretion in the tympanum. There was no pain caused by the ulcer.

Air passed through the tube and opening freely. Inflation, however, produced such intense vertigo that it had to be discontinued. The right tympanic membrane was also perforated, and had been for some time. The inflammatory action in this ear was not very marked, but very obstinate to treatment. The preparations of arsenic were the most beneficial in this case, together with the chalybeates.

Henry Tenkmann, aged forty-five, German, is a slender-built man of medium height. Never had any aural trouble previous to the present attack. About the first of last October caught cold and had a sensation of constriction or tightness across the chest, with pain, cough and pharyngeal irritation and congestion. On the fourth of the same month he felt a sharp pain dart suddenly through his left ear, which was followed by a peculiar sensation in the head. This was the commencement of the aural trouble which followed, and the first time he had felt anything unusual in connection with his ear. The pain continued for four or five days when a discharge took place. Contrary to the rule, the pain was not lessened by the rupture of the membrana tympani. As the discharge increased in quantity, and the pain began to extend into the mastoid bone and up over the side of the head, he became alarmed and presented himself for treatment on the twenty-second of the month.

On examination found a large quantity of pus in the external auditory canal. After this had been removed, the integumentary lining of the canal was seen to be congested and thickened, the posterior portion more than the anterior. There was no tympanic membrane to be seen, but occupying its place and entirely filling up the internal portion of the canal, was a fungus growth. Complaints of severe lancinating pain extending upward over the side of the head. Some pain in mastoid region, but not very severe. Some tenderness on pressure. Integument slightly reddened, with some infiltration of tissues just behind the auricle. Pain would occasionally shoot forward to the eye. On testing, $H=0$.

The fungus growth was removed with chromic acid, when it was found that the origin was from the inner wall of the tympanum, superior and central portion, as seen through the speculum. The canal was cleansed several times a day by syringing with tepid, and an astring-

ent solution was used containing sulphate of morphia and boracic acid. The pain increased so that morphia had to be used internally every two or three hours. At first the narcotic was given in one-fourth grain doses, but soon had to be increased to one-third and then one-half with aconite. The discharge continued to increase, and the pain became almost unbearable, extending down the sterno cleido mastoid muscle to the sternum and all over the side of the face and head. The pain was the most intense just posterior to the left parietal eminence. Sometimes it would dart from the ear to this point, and then again it seemed to be centered there. Leeches were ordered applied over the mastoid bone. This had a palliative effect for a day or two. Dry heat applied to the head gave the most relief, especially when applied over the parietal region. Warm applications, either humid or dry, applied to the ear and mastoid would not alleviate the pain. On the first of November he had an attack of vertigo, so that he could not sit up in bed without producing the most agonizing pain. During all this time, in fact through the entire course of the disease, he never had any special or marked tenderness on pressure over the mastoid, yet the integuments and sturdiness beneath were considerably thickened, with but little redness of the skin. Leeches were again applied both to the mastoids and tragus, with little or no relief to the pain in the parietal region. Up to the fifth of November there had been no improvement, but on the contrary he was in a critical condition. He had a haggard and depressed look, eyes suffused, cheeks flushed and sunken, alæ of nose compressed, pulse 120 weak and excitable. In fact, he had considerable of the "decomposed expression," spoken of by the French. He presented the hippocratic countenance of typhoid fever and appeared to be very close to the moribund state. We suggested trephining the mastoid as we had done on several previous occasions, but the preference always was to wait until the next day, and see if he would not be better. Thus it had been deferred from day to day. Under the use of stimulants his condition improved, and the next day spoke of a decayed wisdom-tooth in the left superior maxillary that had been giving him considerable trouble. This was removed, leeches again applied to the mastoid, followed by warm fomentations and then a cantharidal blister. Fol-

lowing this, there was some improvement. When the vertigo became so pronounced and the pain in parietal region so severe, together with the generally depressed condition, the discharge, which up to this time had been free, ceased entirely, and we expected meningitis to shortly put an end to his suffering. After the removal of the decayed tooth, and the application of the leeches, fomentations and the blister, the discharge again made its appearance. As the discharge increased in quantity there was noticed an improvement in his condition. The pain was less constant, became remittent with violent exacerbations. During these spasm of pain, which still centered in the parietal region, he experienced the most relief by heating a block of wood and applying it to the parietal bone. These periodical attacks continued, gradually getting weaker and weaker until the first of December, when they finally ceased altogether. During these attacks, we gave him quinine in connection with the other treatment.

From this date there was a gradual improvement. The fungous growth was entirely removed, and the anterior portion of the tympanum became less congested. The posterior portion was congested and thickened, this condition extending half way to the external meatus along the posterior wall of the canal. In the posterior portion of the tympanum there were prominent granulations or ridges, and in the depressions between them pus could be seen, presenting the appearance as if it came from the mastoid cells, and from the surroundings, I am satisfied that that view is correct. The tube was patulous, and the air passed through it freely by using Politzer's method of inflation.

On December 5, a diarrhœa set in, which weakened him very much. This was relieved in a few days with opium, bismuth and vini rub. vill. On the 20th of the same month, he had pain with a throbbing sensation in the perineum. It was evident that an abscess was forming. This confined him to his bed again. The pain was so great that full doses of morphia and hot fomentations did not give any relief until after it was opened. Quite a large quantity of pus escaped, and relief was speedy.

December 27. Does not have any pain in the ear, and the discharge has entirely ceased. The only unpleasant sensation is what he calls a "zook, zook," in the ear, which

is from the circulation. Hearing, as tested to-day, is as follows: Heard the watch one-half of an inch from the left auricle, and only eight inches from right. Conditions for testing were unfavorable. Voice in low tone heard distinctly with left ear. The ticking of the clock heard plainly across the room, and all ordinary tones received correctly.

This has been a peculiar case. The course of the disease at first would lead us to infer that we had meningeal trouble, notably the intense pain in the left side of the head. Later we had a class of symptoms that would indicate a typhoid condition, viz.: the pinched features, sunken cheeks, and rapid and weak pulse. Still later, we have a diarrhœa, which might properly be called another typhoid symptom. Yet still later, we have what might be called a pyæmic condition, with the formation of an abscess in the perineum.

At first we had symptoms of meningeal trouble. In what manner, or by what process, was it developed? It could not be that the inflammation extended from the tympanum through the aquæductus falopii along the sheath of the facial nerve, else we would have had present either facial paralysis or tic douloureux. It is true we had symptoms of the latter, but when the pain was most severe it was localized, and did not correspond with the distribution of the nerve. If the bony septum between the tympanum and the meninges had become necrosed, we would have had some symptoms from the character and odor of the discharge. If the septum between the middle and internal ear had been implicated, we would not expect the hearing power to return so quickly. The vertigo might indicate that the function of the semi-circular canals had been disturbed, but it also might arise from the interference of the cerebral circulation from the meningeal trouble. In the same manner we may exclude the auditory nerve. By differentiation, I think we can say that the disease was not transmitted through the labyrinth, or direct from the cavity of the tympanum. From the anatomy of the mastoid cells, and the localized position of the pain, I think we can safely say that the disease was transmitted through the mastoid foramen to the lateral sinus.

I have no doubt but that in this case the disease traveled along the sheath of the mastoid vein to the lateral sinus, in the shape of a phlebitis, and that we had localized in-

inflammation of the latter around the mouth of the former. This view will give us an explanation of the localized pain. From this point was obtained the septic material which caused the typhoid symptoms, which developed the diarrhœa, and finally the metastatic abscess in the perineum.

It is well known by surgeons that in cases of injury of the skull, there is danger of phlebitis of the veins of the diploe. There is no doubt but that in cases of purulent inflammation of the middle ear, the disease may extend to the meninges in this manner, and develop pyæmia, etc. The position of these veins is favorable in cases of inflammation of the periosteum or caries of the bone, for the formation of thrombi, which may extend to the sinews, and be carried away by the circulation and lodged in some remote organ, where they will produce irritation and inflammation, ending it metastatic abscess.

The absence of the signs of caries of the cells, or of asteo-phlebitis in the mastoid, together with what has already been said, has led me to infer that the mastoid foramen has been the channel through which the disease was transmitted in this case.

Corporal Punishment in the Public Schools.

BY T. L. WRIGHT, M. D., BELLEFONTAINE, O.

It is in the experience of every one, when some great trial of fortitude is to be undergone, as, when for the first time, one is to appear before a grave board of critics, or before a large public audience, how the familiar lesson completely vanishes from memory; the mouth is parched; the articulation fails; the muscular system at large becomes affected, and the knees tremble and knock together from sheer inability to stand erect.

This condition of intellectual and bodily INHIBITION takes place in an immense number of nervous children, when, for the first time, they are drawn up on some grave charge, and stand in the presence of the school teacher with whip in hand. What is the physiological condition of a boy so situated? He can not explain. He can not defend himself. He can scarcely breathe for gasping, and his heart surely tries to leap from his bosom. He, also, is in a

neurotic state. His faculties are bound and powerless, in consequence of the tremendous strain on his nervous system, so that they refuse to obey his will; in fact, his will itself is paralyzed. In other words, his faculties are in a state known to science as inhibition.

This is a neurotic condition common to many persons suffering from mental infirmity. The lunatic who carried off another man's property, believing it to be his own, did so because those faculties or nerve centers, which ordinarily govern the conduct and discriminate as regards right and wrong, was in a state of inhibition, and could render him no assistance. So he honestly, though insanely, claimed the property as his own. So, also, the kleptomaniac, not recognized by some, intent upon seizing property belonging to another, is in a state of inhibition, as regards certain faculties active in a healthy mind, which reveal the proper relation of subjects. In what is called cerebral trance, there is also inhibition respecting the usual perception of the proper relations and even existence of things, and by the simple force of habit alone, the defective mind pursues, for a short period and within narrow limits, a course which appears normal and healthy, but of which it has no continued consciousness or subsequent recollection.

These neurotic states, including the condition of inhibition brought upon the child by the force of unusual and severe punishment threatened by the hands of a stranger, have a near relationship with epilepsy, with hysteria, with somnambulism, and with insanity in all its forms. It is needless to suggest that anything calculated to produce such a state of the nerves is exceedingly dangerous to the future welfare of the child. A neurotic state once produced is much more easily produced subsequently than it was the first time. The readiness of the nervous system to contract *habits* is too well known, and the examples of it are too familiar, to need illustration.

Why is the corporal punishment by a school teacher so much more dreadful than that by a parent? There are many replies pertinent to this inquiry. Suffice it to mention one or two of them. In the first place, it is of unknown violence and duration, and all threatened calamities of such character produce profound impressions upon the imagination. They bring about feelings of the greatest dread and horror. The teacher has no knowledge of the

inner workings of the heart of the child, such as a parent must have. The child well knows that the teacher can not measure the impending infliction according to his nature and character, as a parent could and would. Above all, there is no feeling excited in the teacher when called upon, by a sense of duty, to inflict punishment upon a child for wrong doing, and the child instinctively knows that there is no mercy, pleading for him, in the heart of the teacher.

How different in the case of the parent. The mother feels every blow more keenly than if weightier ones were inflicted on herself, and her own pain not only tempers the punishment of the child, but it wrings from her heart and lips words of admonition, instruction and endearment, that touch the heart and enlighten the understanding of the little fellow. There is no possibility that any person other than a mother can affect such results. Impartiality in the application of the law is a wrong to the child; partiality, such as a parent alone can understand in favor of the weakness of the little culprit, is always best; for the active living faculties of his moral and intellectual nature are, some of them, only beginning to unfold, and others of them are as yet entirely latent.

And here it may be noted, that the wise man, when he declared that "the rod and reproof give wisdom," did not fail to add, that a child left to himself "bringeth his *mother* to shame;" indicating that when the punishment is inflicted, no one is so well calculated to administer it as the mother.

The first objection, then, to corporal punishment in the public schools is, that it has a tendency to inaugurate a nervous habit, which, in its nature, may lead to epilepsy, somnambulism, and insanity, in some degree more or less marked. As respects the gravity and importance of this objection, if well founded, it is needless to insist. Nothing can be more weighty or decisive.

A second objection to corporal punishment in the public schools, is in some of its features. All the proper elements of *child punishment* are eliminated from it. The executioner is, to say the least of it, *impartial*. It is not the hand of a close friend and relative that smites. The child is made to feel that he is enduring punishment for *crime*; crime in its worst signification; crime involving a vicious motive, and hence presuming mature knowl-

edge, mature judgment, and enlightened morality; involving in fact, a presumption of responsibility which can be possible only to a person having a body and mind, not growing, but grown—finished.

The child without exactly knowing why, is conscious of occupying a false position and a degrading one; not by a voluntary conscious act of his own, but by the force of torture and brute strength and cruelty. He chafes in his mind at the indignity, but the iron is thrust into his soul, and he is *compelled* to assume that he is guilty of that first criminal offense, without which a second one would be impossible; and the idea of crime, of broken law, and punishment, and disgrace, are brought home to his own person and made familiar to him. He becomes hardened from this cruel and unjust process, and real crime is rendered less hateful to his mind, and more possible to his conduct, than ever before.

The immature and unreflecting feelings of the child, which have prompted him to violate rules, and overstep limits, not possessing to his mind any great intrinsic properties, good or bad—under the supervision of a parent would be directed in the paths of instruction and increased knowledge—are here treated upon the principle that arson, or theft, or murder are treated in full grown men.

It is not necessary to follow the thousand suggested ideas growing out of these central facts. Nor is it necessary in this connection to deal with the case of those unhappy children who may be, by nature, incorrigible; made so perhaps, by the infliction of wrongs upon remote ancestors in times long gone by. Such questions come up farther along. The question now is, are these objections valid? If so, the conclusion is plain, that the well-being of the child in this world and the next, and the well-being of society and of the nation are involved in them. If they are only partly tenable, they merit serious consideration and sober conclusions.

SELECTIONS.

Mr. Gordon's Paper.

Concluded.

AND thus, by proper regard for the laws of heredity, by the inculcation of healthy habits in the young, by judicious and careful education, by the eradication of vicious habits, and by a common avoidance of all sensual and sensuous excesses, the human race may continue its progress until complete harmony is produced in every part.

But while the measure or log of this potency is incalculable, the *presence* of it must be recognized in all efforts to mend the world.

Let us honestly face the fact; indeed, we *must*, for it meets us at every turn and bars our way. The fact is HEREDITY

Heredity is not an opinion, but a *law*, by which all life tends to repeat itself, and by which man tends to repeat himself in his descendants.

We have tacitly admitted, that this repetition occurs in physical features. We say the child has its mother's eyes or its father's nose. We even admit the grandfather or mother into this portrait gallery.

Hereditary influence has also been extended into the realm of temperaments. We say, "There is the family temper, the family gentleness, the family caution."

But if we face the facts more squarely, we shall have to thrust back our vision of the law of descent until we take in the ground work of the sentiments and passions. Organic sensibility, cœnæsthesia, the "inner touch," is hereditary, and it lies very near the seat of impulse, both to activity and to sluggishness, both to virtue and to crime.

The granitic steps of fact that lead to this grave statement are the common places of exact science. They land us in the undeniable truth, that "physiological heredity involves psychological heredity." That is to say, that the *character* of a man, his activities, his impulses, his tendencies, his capacities, depend largely upon that physical nature he brought with him into the world.

We readily admit that morbid *physiological* heredity is a fact. We do not deny the inherited anomalies of physical structure.

We admit, also, morbid psychological heredity. Extreme forms of insanity are too commonly seen in continuous generation to admit of doubt as to their strictly hereditary character. But it is none the less a fact that *common* psychological traits are also transmitted with a certainty and a regularity that is appalling, both to mind and heart.

Two arguments present themselves. One is, that the skulls of the morally inferior races present inferiority of structure. The other is, that loss of mind in our own race, occasioned by lesion or decay of the nervous system, is followed by a loss of *moral feeling*. From such arguments we may at least surmise that the lack of moral sense, and the failure of moral action we find in criminals and paupers, is due very often either to an arrested growth of brain, or to a physical degeneration of the nervous system.

To use the strong language of Maudsley, "Multitudes come into existence weighed with a destiny against which they have neither the will nor the power to contend. They groan under the worst of all tyrannies—the tyranny of a bad organization."

The stupor of pauperism, the callousness of abject want, the stolidity of crime, can not be accounted for by any natural depravity in human nature, but rather by a natural *inability* often there. For, considering the pre-natal circumstances of many paupers and criminals, "So help them God, they could have done no other."

There is among criminals a well-marked and *incurable* class. The members of this class bear those physical and mental characteristics which are quickly recognizable by prison *surgeons*.

There is also among the insane an equally distinct incurable class. And the physical and mental characteristics are similarly familiar to the physicians of asylums.

And, further, there is among the pauperized poor an incurable pauper class, the physical and mental characteristics of which are beginning to be known to those practiced persons who have them in charge.

Two things, then, are known, viz.: (1) These classes are composed of not only chronic, but *incurable* cases, and (2) the mental and physical marks are largely recognizable by trained minds.

One more giant fact is slowly obtruding itself into view,

viz.: That all the classes of that physical degeneration which results in moral disease, in hereditary crime, pauperism and imbecility, are referable to a single classification, that of the "neurosis," or a morbid condition of the nervous system.

This simple classification of hereditary causes, under a morbid condition of the nervous system, is not only interesting from its simplicity, but it is deeply interesting from the revelation it contains, that insanity, crime, pauperism and imbecility, in their hereditary passage from generation to generation, are *mutually interchangeable*.

Weird, but wonderful, are the transformations of the neurosis.

Insanity, crime, pauperism and sluggishness touch hands in the fact of birth. From drunkenness may come forth insanity; from insanity, disease, as of scrofula or epilepsy; from scrofula, whimsical and irritable, or sluggish and unable temperaments.

Some of the ancients saw this great affair of parentage. "Bless not thyself only that thou wert born in Athens," says the author of the *Religio-Medici*: "But among the multiplied acknowledgements, lift up one hand to heaven, that thou wert born of honest parents, that modesty, humility and veracity lay in the same egg, and came into the world with thee. From such foundations thou mayst be happy in a virtuous precocity, and make an early and long walk in goodness, and resist vice by the antidote of thy temperament."

"Poor but honest parents!" There is more in this than a *saying*; the philosophy of life may be wrapped up in its homely words.

Those of you who have gone with me so far, will go yet further, and see the force of *that necessary disappointment* which will follow all attempts to mend the world. If the effect of a deep criminal propensity is often to produce a person who is morally *insane*, and INCURABLY SO; if the effect of a deep physical degeneration is to produce a person who is thoroughly INEFFICIENT, or INCURABLY SO; criminal and pauper, to the finger's ends, and to the life's end, too; and if one-half of gross and palpable crime and pauperism is the result of hereditary causes, beyond our immediate control—if, I say, these things are true, then a vast disappointment is in store for all those who set themselves the task of amelioration.

"The primal duties" embodied in that law of Christ, so hard to keep, yet so musical to hear, are still left to us when the worst truth of the law of hereditary is known in all its nakedness. For alongside of the law by which nature ever seeks to imitate and to repeat, there is another law which is called the law of spontaneity, by which nature ever invents and creates. And we are as certain of the action of this law as we are of that of the other. And this law has a wider range in the realm in which the philanthropist is employed.

For, as I said, the morbid varieties of vice belong rather to the physician and the keeper, but vice and sorrow, which are amenable to remedies, are yours to reach and penetrate with the leaven of virtue and of religion.

We may avoid much disappointment in our benevolence, if we prepare our minds for the certainty of (1) an incurable vice and wretchedness, for which neither we, nor God, nor Christ can do anything, speaking humanly, than for incurable insanity.

Save for a miracle, which we have no reason to expect, "If the jerkin be rumpled, the lining of the jerkin will be rumpled also; that is, if the body be incurably diseased in a certain way, the moral character will be also incurably ruined. And (2) we may prepare our minds for the inevitable disappointment of zealots. There is no "Morrison's Pill," no heal-all for the vices and woes of society, and those who take it will fail, and those who give it will turn disappointed away.

And (3) we should expect that social reforms will move slowly, too slowly almost to be seen to move at all. This is the divine way, and we ought not expect to *mend* any faster than nature makes. And rather, if we could see reform, as but a moment of a general evolution, moving slowly to its goal with a certainty, but also with the *deliberation* of nature.

These disappointments seen, they will cease to disappoint, as they will take their place among *ascertained* things, over which the mind will triumph.

These disappointments seen and thus appreciated, the path of the benevolent and enlightened man is "as the shining light, which shineth more and more unto the perfect day."

On the Virus of the Simple Venereal Ulcer (Chancroid).

BY F. R. STURGIS, M. D.

A Clinical Lecture delivered at Charity Hospital, B. I.

GENTLEMEN:—The subject upon which I propose to lecture to-day will be the *Virus of the Simple Venereal Ulcer, or Chancroid*. Before going into the subject in detail, let me refresh your minds by running over what are usually supposed to be the characteristics of this lesion. The principal one is its capacity for being inoculated, either upon the bearer of the lesion or upon a sound person, producing in such cases a lesion identical in all respects with the one from which the inoculated matter was derived, this in its turn being capable of propagation through several generations. Another is its destructive action, which causes evident loss of tissue, and which is followed, after healing, by a scar. A third is the absence of what is known as a period of incubation, the erosive action taking place almost immediately upon the introduction of the virus upon the skin or mucous membrane. These are the points which heretofore have been considered peculiar to the chancroid, and which it was supposed to share with no other known lesion, whether syphilitic or non-syphilitic.

Within a few years this definition has been questioned, and to test the point experiments have been instituted with matter taken from postules of ecthyma, acne and scabies. The most recent American writer on this subject, the late Dr. Bumstead, in the fourth edition of his work, makes the following assertion: "The chancroid does not depend upon a specific virus of its own, incapable of being generated *de novo*." Let us see upon what grounds such a statement is based.

If the inoculations of simple pus result in pustules similar to the source from whence they are taken, it is evident that we must accept one of two conclusions: either that simple pus is endowed with a virus, or else that the so-called chancroidal virus is a myth, and that its capacity for inoculation is due to some other cause than a specific poison. The first recorded experiments are those instituted by Dr. Pick, of Vienna, in the venereal wards of Prof. Zeissl. The pus of scabies, pemphigus and acne

was inoculated upon syphilitic patients in the wards, with the result of producing ulcerations which were auto-inoculable for several generations; precisely similar to what we find to be the case in the chancroid. These experiments, it must be remembered, were made upon syphilitic persons, in whom the skin is more or less irritable, and perhaps predisposed to take on ulcerative action; for, when the same kind of matter was inoculated upon persons who were free from syphilis, no positive results followed, the inoculations remained negative; and this was true also when the experiments were made upon the bearers of the scabies, acne, etc., from which the pus was taken. In brief, Pick found that simple pus was capable of producing ulcerations upon syphilitic persons and upon no others.

The second series of experiments were made by Drs. Reder and Kraus, and were confirmatory of Pick's experiments. Matter was taken from the fresh postules of scabies and inoculated upon syphilitic persons with success, for two or three generations of such inoculations. When, however, similar pus was inoculated upon persons free from syphilis, the results were always negative. These gentlemen, moreover, found that only recent pus was capable of inoculation. Matter from old lesions gave no result.

The third set of experiments was made by an American physician, Dr. Edward Wigglesworth, Jr., during the winter of 1867-68, while he was studying in Vienna. This gentleman states that he was free from all taint, whether hereditary or acquired; that he had never had a sore of any kind, or lesion of skin or mucous membranes; and that at the time of his experiments he was simply run down from overwork. He took some pus from an acne pustule on his own person, and inoculated himself on the forearm, "first pricking open the apertures of the hair follicles, and then rubbing the pus into them." Three punctures were made, and in three or four days three well marked pustules followed. Three fresh inoculations were then made with the matter from the more recent pustules on the same arm, and again the result was positive. Pus was again taken from these latter and three fresh inoculations made, with a similar result.

"The second series," Dr. Wigglesworth says, "was hardly so well marked as the first, and the third series

was slightly inferior in vigor to the second; still all were well marked, the nine sores being at the same time present upon my arm. On removal of the crust, perceptible ulceration of the skin was found to exist. There were no buboes in my case, nor did the ulcerations require other treatment than exclusion from the air by means of a simple dressing, and cleanliness. The scars remain to the present day."

Now, let us weigh the full meaning of this experiment. Simple pus is inoculated upon a person free from syphilitic or any venereal taint, and as many pustules are produced as there are points inoculated, which pustules are identical in appearance with those from whence the matter was taken. These fresh pustules again furnish pus which is auto-inoculable, and this goes on through three generations. These pustules are followed in all nine instances by ulceration.

Compare this with what occurs in a chancroid. You recollect that I told you that the chancroid was capable of auto inoculation—so is the pus from this acne pustule; the chancroid destroys tissue and produces ulceration—so does the pus from these pustules; the chancroid shows its characteristic pustule in two or three days after the inoculation—so does this pus from an acne pustule. In short, both kinds of pus show auto-inoculability, ulceration, and no period of incubation. Nor is the lack of vigor in succeeding inoculations, in Dr. Wigglesworth's case, different from what we find in the chancroid; for, in this latter, as the pus from succeeding ulcerations from the same source is inoculated, it gradually grows weaker until finally it is incapable of inoculation, as was amply proved in Lindmann's experiments in 1851. Here are some of the characteristics which we believe to be the special property of the chancroid, appertaining to simple pus. What shall we say? Shall we attribute to simple pus a specific virus? or shall we deny it to chancroidal matter? Before deciding upon this question let me relate some further experiments with pus derived from simple non-venereal affections.

In 1853, Dr. E. Vidal, surgeon to the St. Louis Hospital, in Paris, made some experiments with the pus of ecthyma, occurring in typhoid patients. He gives three of these experiments in full, of which I shall give you the abstract. In the first case he made two separate inoculations with

ecthymatous pus, and the fourth day after the pustule was formed at the point of inoculation. In the second case, with the same kind of pus, he made two inoculations; both of them at the fourth day were followed by positive results. In the third case, three inoculations were made, of which all three succeeded upon the fourth day. He then took matter from one of the recent pustules of inoculation and made one fresh inoculation, which, upon the third day, also gave positive results. The first series ran a course of nine days, and the second a course of six days, when they finally cicatrized. He then, upon the same patient, made a fresh inoculation with matter taken from a large sanguineo-purulent pustule, which, upon the fourth day, produced a marked pustule, seated upon a hard, deep-red base. This broke upon the sixth day, upon the seventh was covered with a brownish crust, and finally healed up, the hard base upon which it was situated also disappearing. When the patient went out, after a three months' residence in the hospital, the cicatrices were still visible at the inoculated points. Vidal then made a fourth series of experiments, this time upon a person free from typhoid fever, but the bearer of a simple ecythema. The first experiments comprised three inoculations, which were followed upon the fourth day by positive results. He then followed up the investigation by inoculating matter taken from the original pustules, from the recent pustules produced by inoculation, and also ecthymatous matter which had been exposed to the vapor of the essential oil of turpentine. Three inoculations were made with each of these different kinds of matter, with the following result: That made with matter from the original ecthyma succeeded perfectly—the pustule was prominent and surrounded with a red areola; that in which the contents of the pustules produced by inoculation were used was less successful—the pustule was well marked, but the areola was not; that made with matter which had been subjected to the vapor of turpentine was the least successful—the result was rather a papule than a pustule, and the areola was almost entirely absent. Upon the seventh day after the inoculation the pustules, of the first set of inoculations, were covered with a brownish crust, which in a few days dropped off; the pustules of the second healed up in the course of two or three days. Let me add that all these experiments were made upon

the bearers of the lesions which furnished the pus; that is, they were what is called "auto-inoculations."

In order to test the question of its inoculability upon sound persons, Vidal inoculated himself and the pharmaceutical interne of the hospital with matter taken from ecthymatous pustules upon a patient with typhoid fever. In both instances the results were negative.

Let us now review the experiments I have detailed to you, for purposes of comparison, grouping them as German, American and French, in the order in which I have given them. *First*, as to the German experiments: simple pus is inoculable upon syphilitic persons, and upon them auto-inoculable—upon sound persons, as well as the bearers of the original lesions, the experiments are negative. *Second*, in the American, simple pus is auto-inoculable. No attempt is made to convey the disease to healthy persons. *Third*, in the French series, simple pus is auto-inoculable, but is incapable of being conveyed to healthy persons.

Note one important point here: all of these experiments were successful upon people whose health was below par. In the first series, the persons were debilitated by syphilis; in the second, the subject was run down by overwork; and in the third, three were suffering from typhoid fever, while the fourth was of a lymphatic and sickly temperament. In so far, then, as the question of auto-inoculability is concerned, chancroidal pus would not seem to differ from simple pus; and unless we consider that simple pus is endowed, under certain circumstances, with virulent properties, we must consider that the same laws govern both, and hence we should be forced to deny a specific virus to the chancroid. Shall we, then, consider the positive results as due simply to the result of inflammatory action? I think such a position would be tenable; and the fact that simple pus is incapable of being inoculated upon healthy persons is because the latter is not of sufficient strength to produce inflammation in sound tissues, while it will do so in those which are debilitated from disease or from any other depressing cause. In other words, it is the debility of the subjects which renders their skins prone to take on ulceration and suppuration from causes which would be inert were they in perfect health.

But, before deciding positively upon this question,

further experiments are necessary. These, to be of any value, should be made upon sound persons whose skin is irritated either by friction or by some artificial excitant, such as savin or the like. Should the results of the inoculation then be positive, it would prove that the inoculability of both kinds of pus, chancroidal and simple, was due mererly to inflammatory action, either in the tissues themselves or in the matter which was used, and not to any specific virus in either.

Until, however, this point is proved, we are only warranted in drawing the following conclusions:—*First*, That chancroidal pus, so far as auto-inoculability is concerned, has no quality different from certain kinds of simple pus. *Second*, that this capacity for auto-inoculation is due to debility of the tissues upon which the experiments are made; and, *Third*, that simple pus is incapable of being inoculated upon sound tissues; whereas the contrary obtains with regard to chancroidal matter.

Why this should be so, we are not at present in a position to explain, any more than we can explain why gonorrhœal pus, when rubbed upon the mucous membrane of the nose, produces no catarrhal inflammation, while it excites inflammation when deposited upon the mucous membrane of the ocular conjunctiva, of the urethra, or of the vagina. Yet we no longer speak of a gonorrhœal virus, and although I have retained in these lectures the term "chancroidal virus," I do so only because it is convenient, and because we are not yet in a position to entirely abandon its use.—*Specialist and Intelligencer*.

Report of the Surgical Section of the Camden County Medical Society.

BY O. B. GROSS, M. D., CAMDEN, N. J.

THE section on surgery can only bring to your notice a few cases of minor surgery, partly on account of the scarcity of surgical subjects, due to the disposition of some of our members to send their surgical cases to Philadelphia. Since the last meeting of the Society, a number of cases of traumatic tetanus, have occurred within our city, of such marked fatality as to lead to the assignment of a local cause for the disease. Just what the

local cause was we are unable to say. Every case was, of course, attended with a wound, and while it is known that the disease can supervene on every description of wounds, the incised, lacerated, punctured and contused, the simple or complicated, the healthy or unhealthy—in every stage of reparatory process, and even after the primary wound has healed; yet it can hardly be said that the disease in the cases to which I refer, was induced solely by wounds, or by any peculiarities of condition or constitution of subject, from the fact that it assumed an endemic form. Nor can sudden atmospheric changes be assigned as a direct cause, from the fact that most of the cases occurred during the summer. More cases of tetanus, however, supervened on accidental wounds, during a period of four months, than have been known in this city in double the number of years, with the number of accidents gradually and proportionally increasing. It is known, moreover, that the malady is not peculiar to any country, climate, people or wound, considered either as to its kind, degree, situation or duration, or to any peculiarities of constitution or condition of subject. It more frequently occurs in hot than in cold countries, in climates subject to sudden variations from heat to cold, dryness to moisture, than in a uniform and temperate climate; more common among negroes than whites, more frequently results from punctured and lacerated than from incised or contused wounds, from complicated than from simple wounds, from wounds of the extremities than from wounds of the trunk; more frequently occurs during the period of cicatrization than during the process of healing, and is common alike to all constitutions, but more common where the condition of the patient at the time of accident is one of great exhaustion and fright.

The inflammatory state of a wound exerts but little influence in inducing the disease, as cases often occur after the subsidence of healthy inflammation, but, as a rule, the sooner the symptoms manifest themselves the more dangerous the malady. Sudden exposure to cold when the system is relaxed from heat and perspiration, sudden alterations of temperature, foul atmosphere, etc., are all that can be said of the objective causes of the disease. Just to what extent the subjective and objective causes and conditions affected the subjects, can not be stated, as up to yesterday none of the cases had been reported to

this section. Of the cases of which I have heard there was but one recovery—that occurred in the practice of Dr. Mecray.

The symptoms of the disease are clearly referable to the spinal system, and indicate extreme irritability. Usually beginning with stiffness of the muscles of the neck, the “permanent muscular contraction and fits of painful spasms implicating all of the voluntary muscles except those of the hands, eye-balls and tongue” follow, causing trismus, opisthotonos, difficult deglutition, painful dyspnœa, with increased reflex excitability and increased temperature, the disease usually continues, without fever and with the mind clear, until apnœa from spasms of the muscles of the larynx or exhaustion relieve the sufferer. Post-mortem appearances, even with the aid of the microscope, fail to throw any light on the intimate nature of the disease. There is generally congestion of the cord with slight effusion, often slight softening and disintegration of the gray matter of the cord, occasionally congestion of a nerve leading from the seat of injury. But congestion and slight effusion can result, according to Mr. Curling, from repeated doses of opium and chloral employed in the treatment; and in seventy cases collected and reported by him there were only two in which changes in the cord were due to inflammatory action, and these two gave a history of having been injured in the back, and manifested symptoms which indicated inflammation of the cord and its membranes as plainly as tetanus. Congestion of a nerve leading from the seat of injury, first observed by Mr. Errichson, is not a constant condition, as the wound in the majority of cases is healthy and healing. As far as treatment is concerned, no remedy is known which exerts a constant and uniform influence over the disease. Excision of the wound or incision around its proximal extremity should be early resorted to in order to divide all nervous connection at the outset of the disease. But when the malady is thoroughly established, no local treatment is regarded of any avail; with the exception of amputation when the disease is induced by an injury or wound of the extremities. Efforts to prevent congestion of the cord, to allay spasm, induce sleep and prevent exhaustion are all that can be said of general treatment.

I beg your attention for a moment to an epitome of a

case reported by Mr. Molier in the *British Medical Journal*, as exemplifying the successful combination of the different methods of treatment. A man twenty-five years of age sustained a gun-shot wound of the foot. The fourth and fifth toes were amputated at once. The third toe was fractured, the articulation opened, but it was thought it might be preserved. The wound was treated antiseptically. At the expiration of fourteen days tetanus supervened. The general treatment consisted of bromide, chloral, morphia, stimulants, rest, etc., the local use of laudanum dressings. The patient, however, grew worse. The third toe was amputated, and from that day the local pains ceased, and the general symptoms began to subside. On dissecting the amputated toe a fragment of bone was found sticking in the internal lateral nerve. From the result of the different methods combined in the treatment, Mr. Molier concluded that without the amputation the drugs would have had no effect, while, *per contra*, without the drugs, the operation would have proved useless.

WOUNDS OF THE FACE.

Wounds of the face are sufficiently common in general practice to be passed without notice; yet the *care* requisite in approximating and maintaining the edges, in order to prevent unseemly scars and deformity, is worthy of consideration. The avoidance of deformity is a matter of considerable moment, and the happy results of a number of cases, in this particular, induce me to place before you the rules it is deemed best to observe: *First*. Observe the direction in which the muscular fibers are severed, and adjust the edges accordingly and with the greatest accuracy. This is of as much importance in preventing scarring, as it is in making incisions through the skin to carry the knife in the direction of the muscular fibers, or in the line of the wrinkles. *Secondly*. Never employ adhesive plasters to maintain the edges in their proper position as it is likely to become displaced by muscular movements. Employ as a retentive means either small pins, as in the operation for hair lip, or small silver wire sutures; either can be used for an indefinite period without provoking irritation. *Thirdly*. The more numerous the better, when deformity is to be avoided. If necessary, alternate sutures can be removed at the ex-

piration of twenty-four hours. *Fourthly*. In order to prevent inversion of the edges of a wound (which frequently acts as a cause of scarring) insert the needle obliquely through the skin to a greater depth than its entrance or exit upon the surface is from the edges of the wound, and after inserting the first suture draw out the edges of the wound while the second suture is being inserted, then draw out the edges of the wound while the first is being tied.

HYDROCELE.

From three operations for hydrocele, I think it is safe to conclude that it is better, when the radical operation is to be performed, to inject tinct. iodine, full strength, to the extent of two or three drams, leaving a small quantity within the sac, than to inject two or three ounces diluted one-third or one-half with water.

VARICOSE ULCERS.

In the year 1873, Mr. Esmarch announced that, by means of an elastic bandage and tubing, operations could be performed upon the extremities without the loss of blood. The merits of the bloodless operation were quickly tested, and its introduction is universally regarded as a decided advancement in surgery. Various operations and conditions have since demanded the application of the bandage, thus necessitating various modifications. To Dr. Henry Martin, of Boston, belongs the credit of first applying the *rubber* bandage in the treatment of varicose ulcers, who claims that it is the only local treatment necessary in non-specific ulceration. In four cases in which I have employed it, I am able to bear testimony to the truthfulness of his observation. Dependent, as various ulcers are upon distended veins, irregular circulation—which causes venous congestion, œdema, mal-nutrition and ulceration of the skin—the application of the *rubber* bandage, from its even pressure, affords uniform support to the distended veins, and thus facilitates the circulation, promotes absorption, and furnishes the warmth and moisture necessary for healthy granulations. It is much more cleanly and beneficial than the elastic stocking, and the patient can apply it himself. It is unquestionably the cheapest and best local treatment that can be employed.

The papular eruption frequently observed, after repeated applications of the bandage, is due to obstruction of the

cutaneous follicles, but the continuance of the bandage causes the eruption to disappear with the congestion and œdema of the ulcer. It is best to remove the bandage on going to bed, wash the ulcer, employ some of the usual remedies as a dressing, and apply it before the patient leaves the bed. Mr. Hilton, of London, recommends that the foot of the bed, on which the patient habitually sleeps, be raised a few inches from the floor.

The Third Stage of Abortion.

DR. THEOPHILIS PARVIN, in the *Obstetric Gazette*, July, 1880, contributes a practical article on this subject, from which the following extracts are taken:

Indeed, I have long thought that ergot was too much regarded by the profession as the universal uterine hæmostatic, and that it was frequently exhibited with no more reason and with greater injury than tincture of arnica is always used by the public for sprains and bruises. Given a bruise, almost every man, woman and child is ready to prescribe arnica. Possibly some doctors will accept the prescription, though years have elapsed since the late Dr. Garrod demonstrated that the tincture of arnica was just as valuable locally as so much alcohol, and not a bit better. Given ulceration of the mouth, and chlorate of potassium is commonly directed. Given urinary scantiness or suppression, forthwith spirits of nitre is called in requisition by the nurse, possibly by the doctor. And, finally, let there be uterine hæmorrhage, and almost so certainly as the arnica, the chlorate, or the nitre in the circumstances previously mentioned, ergot is called upon as the sovereign remedy. We are so avidious of some universal agent. It is much easier to follow a common rule than to discriminate! My belief is that ergot is a hindrance rather than a help in securing a complete deliverance in cases of abortion. As a case approaches nearer the commencement of foetal viability, and with a dilated os, it may sometimes be used advantageously. But practically such are not the cases that bring danger to the patient and anxiety to the obstetrician, for generally they work out their own salvation, and the phenomena, or complications occurring, vary but little from those observed either in premature labor or in labor at term.

I remember in my student days reading in some works upon midwifery, possibly in Dr. Huston's notes upon "Churchill," that the three great remedies for abortion were rest, time and laudanum. A professional experience of twenty-eight years has confirmed me in the value of the advice, and at the same time has taught me that it should not be followed too explicitly, and the means directed not always exclusively used. When the abortion is inevitable we may hold to these means, often remembering to abstain from rupturing the ovum, either with the fingers or an instrument. Let nature's hydrastatic dilator be respected and retained in its integrity; then we may hope for the complete and simultaneous expulsion of the embryo and its appendages just as soon as the cervical canal has become sufficiently softened and dilated. Now, in most cases of spontaneous abortion the oval sac is found unruptured. But, unfortunately for human morals, human health and life, and for the physician, many cases come under his care, not of spontaneous, but of criminal abortion, the abortion very frequently having been started by perforation of the sac, and the process of expulsion is then generally tedious, sometimes dangerous. Of course, in the first few weeks of pregnancy, miscarriage is usually affected with very little more disturbance of any sort than that incident to a menstrual period, and no special treatment is required. So, too, in and from the fourth month, the phenomena are usually similar to those of labor, and it is altogether exceptional when membranes or placenta are retained, if the practitioner knows how to watch and wait. But in the second and third months of pregnancy, the cases of abortion of most difficulty occur. Nearly one-half the number of criminal abortions are found in the first three months, and, as before said, these are frequently induced by perforation of the oval sac. Called to such a case, or to any case of inevitable abortion, must we always interfere at once by active means for immediately emptying the uterus? I think not. It takes time for the rupture of the many uterine adhesions of the ovum, and their detachment will be assisted by tamponing the vagina, still better by tamponing the os uteri, thus causing the very effusion of blood from ruptures already made to hasten other ruptures, and giving time, too, for some softening of the cervix, and dilatation of its canal. But if the hemorrhage has been going on for some days when the

practitioner is first called, and a few hours after the application of the tampon—if this be not followed, as it often is, by the expulsion of the ovum—especially, too, if the hemorrhage be at all profuse, I believe in instantly emptying the uterus of its contents. But how? I shall never forget a remark once made to me by Dr. Fleetwood Churchill. When that most amiable of Christian gentlemen, that wise and admirable teacher, had gone with me, just before I left Dublin, to Fannin & Co.'s, to select some obstetrical instrument, I asked him for an ovum forceps. His reply was: "Your finger is the best ovum forceps." And in the last edition of his *Midwifery*, London, 1872, I read, "The use of any instrument of this kind" (he had been referring to Dewees' wire crochet, and the French forceps) "will require great care, and can only be safe so far as their application can be regulated by the finger." Yet, is this not too strong a statement?

Certainly I would hesitate before "fishing" with a bent wire in the uterine cavity, hoping there to catch the *corpus delicti* by hook or crook. Nor can I repose implicit faith in the certainty and safety of any of the curettes, one of which has been strongly recommended in cases of abortion. We may draw down the uterus so low that its cavity is readily accessible to the exploring finger, as suggested by Prof. A. R. Simpson. But the uterus, enlarged and engorged by pregnancy, sometimes proves itself peculiarly intolerant of all severities, and I would rather any operation upon its cavity should be effected while the organ is *in situ*. We may introduce a hand into the vaginal cavity, and then one or two fingers into the uterus. Mauriceau, by the way, well describes his use of two fingers to bring fragments of the placenta in a particular case: "I brought away three pieces of the after-birth of the bigness of a walnut, which were left behind, taking them one after the other with my two fingers, as crabs do when they grip anything with one of their forked claws." But the introduction of the hand into the vagina in any stage of pregnancy, and especially during the first months, should hardly be done without anæsthesia.

Still, my question occurs: Is there not a more excellent way than any that has been mentioned? I believe there is. Suppose a case of incomplete abortion, having hemorrhage, which, by its persistence or profuseness, brings danger to the patient, or commencing offensive discharge

that heralds a possible septicæmia, and then interference is imperative and must be immediate. Let the patient lie on her back, upon a hard bed, her hips brought to its edge, lower limbs strongly flexed; then introduce Neugebauer's speculum, and bring the os fairly in view; now catch the anterior lip with a simple tenaculum, or better, with Nott's tenaculum forceps, and then, if there be any flexion—and it is not uncommon in cases of spontaneous abortion to observe this—use gentle traction to straighten the bent canal; at any rate fix the uterus by the instrument. Now, take a pair of curved polypus forceps of suitable size, or, better still, Emmet's curette forceps, and gently introduce the closed blades into the uterine cavity, open them slightly, then close them and withdraw, when the fragments of membranes can be removed, and the instrument re-introduced. Repeat this three or four times, if necessary, until all membranes or placental fragments are extracted. Then, by means of an applicator wrapped with cotton wool, swab out twice or oftener, the uterus with Churchill's tincture of iodine—one of the best of local uterine hæmostatics, if not one of the best of antiseptics. Finally, let the patient have ten or fifteen grains of quinia, and it will be very rarely, indeed, that her convalescence is not prompt and perfect.—*New Orleans Medical and Surgical Journal*.

Part of a Clinical Lecture at Jefferson Medical College Hospital.

CLINIC OF ROBERTS BARTHOLOW, M.D.,
Professor of Therapeutics and Materia Medica.

TREATMENT OF OBSTINATE MALARIAL ATTACKS.

THE case before us is a simple ordinary one of intermittent fever. He has a chill every other day. The fever is, therefore, of tertian type, and, after the chill, the hot stage lasts two or three hours, and is terminated by sweating. This has been kept up for some time, and will prove what I say, that an attack of intermittent fever in a malarious district is not to be despised. After checking the disease with quinine, the paroxysms will recur, and the treatment will thus often be brought into discredit, unless some few points are borne in mind, as regards the method

of administration. Give the quinine at least three hours before the expected paroxysm. Shall we give small doses frequently repeated, or large doses less often? The latter is the true mode. You will then give fifteen grains three hours before the expected paroxysm. I prefer this to the former method, for this reason, which I regard as indisputable: Quinine, though not eliminated from the system with great rapidity, yet is eliminated, and chiefly by the urine. If we were to give it in small doses early in the morning, by afternoon it would be eliminated, and would require to be repeated, and in larger amount, in order to check the paroxysm. Therefore, it is more economical, as well as more effective, to give a single large dose, which is also more agreeable to the patient; for I affirm that fifteen grains given at once will give much less distress than one grain every hour until the same amount be taken. Large doses obtund the sensibility of the cerebral centers, while smaller ones cause excitement of the brain and tinnitus.

By giving a single large dose of a gramme of quinine at least four or five hours before the time for the appearance of the expected chill, we break up the paroxysms. What shall we do to prevent their return? We ordinarily hear that the chills are apt to return at septenary periods; but if you will look into the matter, you will find that they recur in multiples of the original number. Thus, tertian would return in six days, or, if not, then on the ninth, twelfth, fifteenth, eighteenth, or the twenty-first day; and, in quotidian, they are apt to be manifested in multiples of two. On these critical days, the remedy should be repeated. If we break up the chill to-day, on the day after to-morrow, although he may not have a decided chill, he will have some significant symptoms, that are evidences of systematic disturbance; he will excrete more urine, he may have a diarrhœa, general muscular soreness, or something else indicating the influence of the malarial poison. We must, therefore, give our quinine again, and repeat it on subsequent days, multiples of the original attack, administered in anticipation of the former hour of the attack. On the mornings of the sixth and seventh, the thirteenth and fourteenth, the nineteenth and twenty and twenty-first days, doses of ten grains shall be given on each of these days.

What else? Do you abandon your patient in the inter-

im? Ten grains of quinine will not be sufficient to relieve a damaged liver, or to reduce an enlarged spleen; in other words, the condition of chronic malarial poisoning. Treatment must be directed to this object as well as to breaking up the chills, or they will inevitably return. Lugol's solution, in five drop doses, given in water before meals, and Fowler's solution, three drops after meals, always prove most efficient aids. It is best, about the twenty-first day, to give a full antiperiodic dose of quinine for three days, for by this time there is a much greater accumulation of morbid material in the blood than at the other periods named.

Please bear in mind these rules which I have just given you, for you will find that they will stand you in good stead in all these cases of obstinate malarial attacks.—*College and Clinical Record.*

MICROSCOPY.

An Ideal Series of Objectives for Microscopical Work.

GOVERNOR J. D. COX, of this city, recently wrote a leading microscopist on the subject of an ideal series of objectives for microscopical work. His correspondent, regarding the views of value, submitted them, we understand, to Prof. Abbe, of Jena, hoping he might make formulæ for such a series, to be worked out under his supervision by Zeiss. At our request, the Governor has given us that portion of the letter in which he discusses the subject for publication, which we here present to our readers. [Ed.]

"Prof. Abbe's enunciation, in a recent article, of the proposition, in substance, that one great objective of a given angle of aperture should, if properly constructed, do all that *any* glass of that aperture will do, strikes me with peculiar force, because I have been leaning to that view myself. It amounts to this, viz.: Angle of aperture determines the power of discriminating minute variations of structure, or of surface in the plane, which is in focus; *ergo*, if the objective is thoroughly well corrected, eye-piecing will do nearly all that increase of power in the objective would do, without increasing or widening the angle.

"A practical suggestion grows out of this, which, if it could be carried out by Zeiss, under Prof. Abbe's directions and with his formulæ, would be of interest to the microscopical world. It is, that the true model for a series of objectives, would be a list containing the lowest powers that can be thoroughly well made of each of the desirable angles which will combine maximum aperture with low magnification. The series would thus be scientifically progressive. We should then only need to select those which would combine the most desirable *working distance* with other qualities, and the model series would be complete.

"Besides the lowest powers, we should want one objective of 40° angle for use with the binocular upon opaque objects. We should want a glass, with nearly half an inch actual working distance, for use with dissecting instruments or with the mechanical finger. Another, with an eighth or a tenth of an inch clear working distance, would be needed for rough examinations of algae, etc., in the common animalcule cage or compressor, with pretty thick cover glasses. The problem is, What is the *highest angle* consistent with these conditions? Indeed, I do not see why we should not rate our glasses by the angle of aperture rather than by the so-called focal distance, for we should always know what a thoroughly corrected glass of a given angle *ought* to do; whereas, nobody knows what a glass's performance will be, because it is called a "quarter" or an "eighth," under the present nomenclature.

"In further elucidation of the matter, it may be well to refer to the tables which the Royal Microscopical Society have published and kept standing in their journal. These tables are based upon Prof. Abbe's notation, and show the resolving and defining power of objectives of various angles, theoretically calculated from Abbe's formulæ. They give, of course, the *possible* performance of glasses, to which objectives will approximate according to the perfection of their corrections and finish. It is easy to see how a series of glasses, constructed upon the conditions which have been stated above, may combine maximum performance in each department of work, with the minimum number of objectives. Thus, the scientific outfit of the microscopist would be made, at once, least cumbersome in quantity and most efficient in quality. In

this way, we should have what might fairly be called an ideal series of lenses.

In practice, the result would be somewhat as follows, viz.: 1. An objective of 40° aperture and half an inch working distance, giving about forty diameters' magnification with the ordinary No. 1 ocular, and resolving 38,000 lines to the inch; 2. An objective of 100° aperture and one-eighth of an inch working distance, giving about 120 diameters' magnification, and resolving 70,000 lines to the inch; 3. A homogeneous immersion objective of 120° balsam angle of aperture, giving about 300 diameters' magnification, and resolving 120,000 lines to the inch. Proper eyepieces would make these three objectives cover the intermediate magnifications desirable, and the third objective in the list would resolve any test resolved by any glass yet made and in the market; whilst the 40° glass would give all the "penetration" needed for the binocular with opaque objects.

THE SPECIFIC AGENT OF TYPHOID FEVER.—Professor Klebs, of Prague, believes that he has discovered the micro-organism which constitutes the specific agent of typhoid fever, and develops his views in a paper entitled "*Der Ileotyphus eina Schistomy cose*," published in the *Archiv fur Experimentale Pathologie*, t. xii. p. 231, 1880. Professor Klebs has for a long time, assisted by his pupils, been making researches in this direction. He writes that he has been able to find, at the necropsy of twenty-four persons carried off by dothineritis, microbes in various organs: in the intestinal mucous membrane, in the thickness of the cartilages of the larynx, in the pia mater, in the foci of lobular pneumonia, in the mesenteric ganglia, in the parenchymata of the liver, and generally diffused in the organs which showed the most decided lesions. These micro-organisms showed themselves in the form of rods, about eighty micrometers in length and 0.5 to 0.6 micrometers in thickness. They have been constantly observed in the bodies of dothineritic patients since the attention of Professor Klebs was drawn to the subject, and they are always absent from the organs, and specially the intestines, of subjects who have died from any other disease than typhoid.—*British Med. Journal*.

OUR editor of the MEDICAL NEWS, Dr. J. A. Thacker, has recently been honored by being made a *Fellow of the Royal Microscopical Society* of Great Britain.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

RESORCIN.—A NEW REMEDY.—Dr. Andeer, of Warzburg, has recently investigated the antiseptic properties of Resorcin, which is derived from certain resins, particularly from galvanism and has for its formula $C_6 N_4 (H_2 O)$. It is described (*Lancet*, November 19, 1880,) as having an odor somewhat like that of carbolic acid, and a bitter-sweetish taste. A one per cent. solution will retard fermentation, and a stronger one will arrest it altogether, and destroy the movements of infusoria and low organisms. It coagulates albumen. Although its caustic properties are not so pronounced as to cause even slight irritation when applied to the human integument, yet strong enough to produce a white eschar when applied to the mucous membrane of the lips. Unlike carbolic acid, which it resembles in some particulars, it appears to exert no paralytic effect upon peripheral nerves. Given in excess by the mouth, it occasions violent symptoms of poisoning, but its toxic symptoms are never accompanied by elevation of temperature. Albuminate of iron and red wine are successful antidotes. It increases the elimination of sulphur from the system, and augments the nitrogenous excreta.

Resorcin is a good antiseptic for the prevention of fermentative putrefaction. In one per cent. solution, it prevents putrefaction and even arrests it after it has begun in such substances as pancreas, blood, and urine, all of which retain their natural odors. In artificially produced septic processes, a solution of the same strength has an antiseptic action as powerful as carbolic acid, without being absorbed into the blood current to the same deleterious extent as carbolic and pyrogallic acids. Punctured and incised wounds treated by this agent, heal by first intention—a negative result. From its innocent action on the skin, Resorcin, in one-half per cent. solution, is eligible in form of spray in surgical practice. It is recommended also for fermentation connected with the mucous membranes in septic processes of the buccal cavity, “my cosal,” affections of the stomach, intestine and bladder, for the cauterization of the catarrhal, tubercular

and syphilitic ulceration and in diphtheritic affections. Dose: Teaspoonful of solution of, from one to five pints of either water, alcohol, glycerine, or syrups of orange peel.

Lichtheim has investigated the antipyretic properties of Resorcin. He finds three grammes flushes the face, accelerates the pulse and respiration, and causes tinnitus, followed by perspiration, and, in an hour, by reduction to normal standard of both pulse and temperature. It sometimes causes transient tremor and delirium. The urine, after its administration, assumes a black color on exposure to air. It is useful in a large number of febrile affections, particularly of intermittent type.

FREQUENT CHANGES OF THE UNDERCLOTHING.—Weak patients should change their underclothing as seldom as possible, as every change robs the surface of a portion of the oil that is necessary to keep the skin soft and lubricated, and to make it a non-conductor of heat. When the skin is in an oily condition, as is found in the healthy, the liability to be affected by colds is much less than when it is in the rough and dry condition.

The oily state of surface, as is usually found with the healthy individual, is maintained by many thousands of sebaceous glands that are located in the integument; when a patient is in a weak condition from catarrhal disease, these glands do not supply this important non-conductor as abundantly as the skin requires it. For this reason, those patients that are thin in flesh, and on the surface of whose body there is little or no oily material, should not change the stocking-knit suit that is next to the body until it has become soiled, which may be in about one, two, three or more weeks. The weaker the patient, the less frequently should changes take place, and the less frequently will they require to take place, as the dry skin does not soil the clothing so rapidly as does the healthy oily skin.

If the suit next to the body does not cause undue perspiration during the night, it should be worn at this time as well as during the day.

The supplementary suits should not be permanently removed until the weather becomes warm in the spring. The last supplementary suit—leaving the one thin stocking-knit suit next to the body—may usually be removed about the 15th of June.

Patients must bear constantly in mind that it is far preferable to suffer the temporary discomfort that is occasioned by the presence of the extra suits on occasional warm days, that sometimes occur before the warm weather has permanently set in, than to risk taking a cold by their too early removal. In other words, it is far preferable to bear patiently the inconveniences caused by the heat, than to suffer several days or maybe weeks' sickness, the result of the too early removal of the under-clothing.—*Dr. Rumbold's Hygiene of Catarrh.*

DYSPEPSIA IN INFANTS.—Dr. Steiner recommends, in his Compendium of the Diseases of Children, the following formulæ, which he has often employed with good results in the treatment of dyspepsia in young children. Dyspepsia, the result of overloading the stomach with difficultly digestible and badly assimilated foods, is a condition which is frequent in those who are brought up by hand. The treatment of such cases requires careful attention to diet, and where there is an excessive acidity of the stomach, magnesia and bicarbonate of soda may be employed as follows:

Sodæ bicarb. 0.20—0.50 centigrams.

Aq. destill. 80 grams.

Syrup simpl. 10 grams.

Sig. A dessertspoonful every two hours.

In those cases in which there is excessive alkalinity on the other hand, acids in a very dilute form are specially indicated, and of these more especially hydrochloric acid:

Acid hydrochlor. dilut. gtt. x.

Aq. destill. 70 grams.

Syrup simpl. 10 grams.

Sig. A teaspoonful every two hours.

With very young children a dose of a centigram of pepsin may be administered before each meal.

The dyspepsia of older children, due to improper diet, can sometimes be quickly cured by an emetic and strict attention to diet. Colic of a dyspeptic character may often be cured by the employment of the following:

Sodæ bicarb. 0.50—0.80 centigrams.

Aq. fœnicul. 80 grams.

Syrup diacod. gtt. xv.

Sig. A teaspoonful every two hours.

If there is a constipation this mixture may be ordered:

Hydromel 40 grams.

Aq. fœnic. 40 grams.

Aq. lauroceras, gtt. xv.

Sig. A teaspoonful to be taken every half hour until the medicine acts.—*Le Progres Med.*, July 10, 1880.

TINCTURE OF IODINE INJECTIONS FOR POST-PARTUM HEMORRHAGE.—Dr. W. E. Forrest, of New York, (*Med. Rec.*) thus speaks of the iodine treatment of *post-partum* hemorrhage.

The tincture of iodine, as a intra-uterine injection to control hemorrhage, was brought prominently to the notice of the profession by Dr. T. A. Emmet, of this city. So long ago, however, as 1857, Dr. Dupierris, of Havana, Cuba, published an article giving the histories of three cases of post-partum hemorrhage where injections of tincture of iodine were made into the cavity of the uterus with the most excellent results. But his cases failed to attract the attention they deserved, and his method did not then come into practice.

Speaking from my own experience, I should say that the injection of tincture of iodine is the most safe and by far the most efficient method we possess for controlling post-partum hemorrhage.

In summing up the advantages of the iodine treatment of post-partum hemorrhage we may state them briefly as follows:

1st. Iodine controls the hemorrhage, not by coagulating the blood within the uterus, but by exciting the uterus to contract. The blood is expelled in a liquid form, and hence, instead of leaving the uterus filled with a mass of hard, sticky clots, ready to undergo decomposition, the uterus is empty and disinfected.

2d. Tincture of iodine has never, so far as I can learn, caused any bad result, even when injected into the uterus in full strength.

3d. The iodine treatment never fails to control the hemorrhage.

CASE OF RESUSCITATION AFTER TWO HOURS AND TWENTY MINUTES.—On September 12, 1877, I was called to a lady in labor in South Kensington, and found that her child had been born nearly an hour. Though there were two married women in the room, the child had been allowed to turn on its face, and so became asphyxiated. I found

a slight flutter at the heart, which ceased in a few minutes. The child was partially wrapped in flannel and placed in front of the fire, whilst I adopted Dr. Silvester's method for suspended animation. After a little more than an hour it gave a catching kind of sob. I persevered, and at the end of two hours and twenty minutes the child breathed perfectly; and has grown to be a fine healthy child.—R. J. Maitly Coffin, F.R.C.P., Edinburgh.—*British Medical Journal*.

THE FEET—STOCKINGS.—Cold and damp feet are almost certain to induce and aggravate a congestion of the mucous membranes of the head, throat, ears or lungs. The recovery of a patient who has even a slight catarrhal affection will be retarded if the lower extremities are not maintained in a warm and dry condition.

Wearing stockings made of wool will generally cause the feet to perspire; in this condition they are liable to become chilled. Should such be the case a pair of thin cotton stockings should be worn under the woollen. It is well for patients who suffer from cold feet, whether they are damp or not, to wear, during the cold weather, a pair of woollen over the cotton stockings. Neither of these pairs need be very thick.—*Dr. Rumbold's Hygiene of Catarrh*.

THERAPEUTIC ACTION OF SULPHATE OF CINCHONIDIN.—M. Poncet had occasion, during his stay in Africa, to administer sulphate of cinchonidin to patients suffering from intermittent fever. He noted with care the results obtained, which do not agree with those arrived at by M. Laborde, based upon experiments formed on animals. According to M. Laborde, sulphate of cinchonidin possesses a well marked convulsive action. M. Poncet, however, administered the drug to the greater number of his patients in the very large dose of four grams per diem; but in no case did they present any symptoms of intoxication. The only appreciable effect was a marked slowing of the pulse rate, but no symptoms of any convulsive action presented themselves.—*Le Progres Medical*, Feb. 7, 1880.

PAPAIN IN GYNECIC PRACTICE.—M. Cheron (*Paris Medical*,) injected twenty drops of a solution of papaine (five parts) and water (one part) into a hard recurrent cyst of

the vulvo-vaginal gland. Acute pain, with rigor, set in after a few hours, followed by fever which persisted for two days. The cyst suppurated and formed an abscess which healed kindly after being opened. A case of hypertrophy of the labium majus was similarly treated with like results.

ANTISEPTIC PROPERTIES OF BENZOIN.—Dr. F. M. Brown, (*Lancet*.) reports the rapid healing of compound fractures when dressed with lint, previously treated with tincture of benzoïn. The antiseptic properties of this drug have long been recognized in America, although it has never been accorded the prominence it deserves.

BOOK NOTICES.

DIAGNOSIS AND TREATMENT OF EAR DISEASES. By Alfred H. Buck, M. D., Aural Surgeon to New York Eye and Ear Infirmary, etc. 8vo. Pp. 411. New York: Wm. Wood & Co.

This is the eleventh number of Wood's Library of Medical Authors, for 1880. In this treatise it has been the aim of the author to present a picture of diseases of the ear, as they have appeared to him in public and private practice. At the same time, he has not hesitated to make use of the experience of others, but, in the main, using the material, as he says, stored up in his own case-books, and describing those methods of treatment which he has tested and found both safe and efficient.

There are no diseases more difficult to treat than those of the ear. The general practitioner usually knows but little about them; and when he has prescribed some "drops" to be dropped into the ear, when called upon by a patient to prescribe for some ailment of the ear, and has ordered some injections, he has exhausted his therapeutic means, and can do no more. Such procedure is disgraceful. The organ of hearing is one of the most important organs, and its affections are worthy of the most careful attention and study. To be deaf is one of the greatest misfortunes of life—interfering greatly in one's attention to the business of life, and depriving one of some of the most exquisite enjoyments. Not a few of the diseases of the ear result in deafness or impair-

ment of hearing; and an ignorance or a carelessness which may thus terminate is most inexcusable. Every physician should be qualified to treat diseases of the ear as well as other diseases; and if he is not, he should at once proceed to make himself qualified.

We can very cordially recommend the work of Dr. Buck to both students and physicians. It is a well written work, and quite practical in its character. The affections of the ear are methodically described in a plain interesting style, and the treatment of them explained. Such a treatment being recommended, as the author himself has tested and found to be efficient.

A MANUAL OF MEDICAL JURISPRUDENCE.—By Alfred Swaine Taylor, M. D., F. R. S., Fellow of the Royal College of Physicians, etc. Eighth American edition from the tenth London edition, containing the author's latest notes made expressly for this edition; edited with additional notes and references. By John J. Reese, M. D., Professor in the University of Pennsylvania, etc. With illustrations on wood. 8vo. Pp. 933. Philadelphia: H. C. Lea's Son & Co. Cincinnati: R. Clarke & Co. Bound in half Russia. Price, \$6.50.

Probably every physician is fully aware of the high position held by Dr. Taylor's Manual of Medical Jurisprudence. It has reached ten editions in London and eight editions in this country. No work in any language, in the same department of medicine, is of higher authority, if as high. With both medical and legal gentlemen its statements are decisive.

But, independent of its value as a medico-legal work, we regard it of so great value in consequence of its very large amount of practical information, that can not be conveniently obtained elsewhere, that we consider a medical library very incomplete that has not a copy of it on its shelves. We would almost as much think of getting along without a text-book on practice, as to do without it. It will even be found highly interesting as a reading book, full of interesting and novel information, irrespective of its scientific character. Every microscopist, whether a medical man or not, will especially esteem it, as it will open up a field to him to make his microscope of practical use. With this work he need not be at a loss

to find useful and pleasing employment. He can find other objects than flies' feet and probosces to occupy his time.

It is known probably by the most of our readers, that Dr. Taylor, the author, recently died. This edition, of course, will be the last published under his own revision. Before his decease, he revised it throughout, noticing under the appropriate chapters such cases of interest, as had transpired since the last edition. The work is fully up to the present state of knowledge, and will, for a long time to come, be regarded as the standard work of medical jurisprudence.

Like a number of works by the same publishers, it is bound in cloth, sheep, and half Russia. The latter forms a most beautiful binding, and costs but slightly more. Price in cloth, \$5.00; sheep, \$6.00; half Russia, \$6.50.

A MANUAL FOR THE PRACTICE OF SURGERY. By Thomas Bryant, F. R. C. S., Surgeon to, and Lecturer on Surgery at, Guy's Hospital, etc. Third American from the Third Revised and Enlarged English Edition. Edited and Enlarged for the Use of American Students and Practitioners, by John B. Roberts, A. M., M. D., of the Philadelphia School of Anatomy. 735 Illustrations. Svo. Pp. 1,005. Bound in elegant half Russia binding, with raised bands. Philadelphia: Henry C. Lea's Sons. Cincinnati: R. Clarke & Co. Price, \$8.00.

This splendid standard work upon surgery, has reached a third edition both in this country and England. It is a work especially adapted to the wants of students and practitioners. While not prolix, it affords instruction in sufficient detail for a full understanding of surgical principles and the treatment of surgical diseases. It embraces in its scope all the diseases that are recognized as belonging to surgery and all traumatic injuries. In discussing these it has seemed to be the aim of the author rather to present the student with practical information, and that alone, than to burthen his memory with the views of different writers, however distinguished they might have been. These, no doubt, oftentimes would be interesting, but the student and general practitioner really has not time to give them attention. Such feel it incumbent upon themselves to limit their researches as much as possible to what has been demonstrated, and to

the author's own views. We have no doubt the work will not only maintain its previous popularity, but will increase it.

In this edition the whole work has been carefully revised, much of it has been rewritten, important additions have been made to almost every chapter, and, of the 672 wood-cuts, 82 are new.

This, like many other volumes issued by them, is elegantly bound by the publishers in half Russia, at a slight additional cost.

TREATISE ON THERAPEUTICS. Translated by D. F. Lincoln, M. D., from the French of A. Trousseau, Professor of Therapeutics in the Faculty of Paris, and H. Pidoux, Member of the Academy of Medicine. Ninth Edition. Revised and Enlarged, with the assistance of Constantine Paul, Professor Agregé in the Faculty of Medicine, Paris. Volume III. 8vo. Pp. 379. New York: Wm. Wood & Co. Cincinnati: H. Stacy.

This forms the tenth number of the series of twelve books of Wood's Medical Library, for 1880. It is the closing volume of the admirable work of Trousseau on therapeutics. On noticing the previous volumes we very fully described the work, and it is, therefore, not necessary to repeat the description at this time. Suffice it to say, that no work in its department stands higher. Wood's Library will undoubtedly increase very much in popularity, if the publishers continue, in future publications, to present works of such high character. In this volume are considered Anæsthetics, Antispasmodics, Neurosthenic Tonics, Excitants, Sedatives and Contrastimulants, Anthelmintics.

A PRACTICAL TREATISE ON NASAL CATARRH. By Beverley Robinson, A. M., M. D. (Paris), Lecturer in Bellevue Hospital Medical College. New York: Wm. Wood & Co. 8vo. Pp. 182.

This work will be found to be a valuable practical guide in the treatment of a class of diseases, that, although important, do not receive much attention in works upon the practice of medicine. It gives description of instruments necessary for the examination of nasal passages, illustrated by cuts, and teaches how to use them. These

chapters are certainly valuable; for, in all cases, the diagnosis of the disease is of the greatest moment, and, whatsoever aids in determining it, is of the greatest value. The work will repay careful study. Those who do so will qualify themselves to relieve many chronic cases, which they would probably, otherwise, discharge as incurable, after having for a while used some astringent injections.

DISEASES OF THE PHARYNX, LARYNX AND TRACHEA. By Morell Mackenzie, M. D., London, Senior Physician to the Hospital for Diseases of the Throat and Chest, Lecturer on Diseases of the Throat, at the London Hospital Medical School, etc. 8vo. Pp. 440. New York: Wm. Wood & Co. Cincinnati: H. Stacy.

This very distinguished work of Dr. Mackenzie forms the ninth number of Wood's Library of Medical Authors. No work is better calculated to maintain the high character of the library than this one. We presume nearly all intelligent physicians have heard of it, for ranking high among the standard works upon the subject of which it treats, it is quoted and referred to very much by writers. Those who subscribe for Wood's Library, 1880, get this volume, with others of similar standing.

The work is based partly on the courses of lectures delivered at the London Hospital Medical College, and partly on the prize essay of the author on Diseases of the Larynx. There are full descriptions of the instruments, and the modes of using them in investigating diseases of the throat, pharynx, larynx, trachea, etc. Our space will not permit us to give anything like an outline of the work. We say, however, without hesitation, that it is a work which every practitioner ought to have. It will enable him to treat the many diseases which are discussed by it much more confidently.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

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We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

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3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

PROF. TRAILL GREEN'S ADDRESS.—We have recently received a copy of the address of Prof. Traill Green, M. D., LL.D., Professor of General Chemistry in Lafayette College, Easton, Pa., delivered before the Alumni Society of the Medical Department of the Pennsylvania University, last March. Quite a number of topics are embraced in the address, and some of them so entertainingly treated that we feel like making pretty copious extracts, feeling sure that thereby we will interest our readers. In speaking of medical journals, the speaker says: "The readers of these journals are constantly receiving useful information, and through this reading alone are becoming better qualified to perform the duties of the profession. These journals nurtured or formed a taste for reading when the text-books had lost their interest. They have led many of the profession to cultivate a talent for writing, and in this way the science has been advanced. New remedies, new pathological views, and new methods of treatment have been through the journals, made known to the readers of them residing in every part of the land. Many who can not add books to their libraries do in this way learn much that is valuable to them in their daily work. Our journals are rich repositories of medical truth, and have influenced medical reading for almost a century. . . . I doubt whether a number of any of them is ever

read that does not furnish some useful hint to the practitioner who reads it; and in a consultation or an occasional conversation with a physician it is not difficult to determine whether he is in the habit of reading a medical journal, as much of treatment and the use of new remedies is learned from the journals before it is collected together in more permanent works."

Prof. Green is decidedly in favor of a classical education preparatory to the study of medicine. He thinks that the study of Latin and Greek trains and strengthens the mind better than the study of the sciences alone, or in conjunction with the study of the modern languages. While, of course, in the study of the ancient languages the reasoning powers may not be called into exercise, as it were, as they are in the solving of difficult geometrical problems, yet a culture is imparted and a breadth of thought realized that does not follow upon the study of mathematics or any of the natural sciences. This may be partly due to the students of these languages becoming familiarized with the cultivated thoughts and beautiful conceptions of the old masters of literature, philosophy, and poetry. And not only made familiar, but made almost part of their own minds by the close study required in studying the language which expresses them. But there is a science and beauty of construction in the Latin and Greek languages which can not help but refine and give vigor by their study. These old languages are peculiar in this respect, of which there is nothing of the kind in our modern languages. The mind that has become trained by study to read a Latin or Greek author right along, capable at once to understand the thought expressed in only three or four words, which would require a dozen or twenty if written in a modern language, has acquired a quickness of perception, strength and elasticity that can not be obtained by the study of weights and measures, lengths and breadths. But it is our object in this writing to quote from Prof. Green, and not to give our own views. Prof. G. refers to quite a number of authorities in evidence of the superior mental training secured by the study of the classics. He states that the great Baron Liebig at one time was greatly in favor of discarding the study of ancient languages in the education of young men, and expressed his conviction "that a new national life would commence for Germany, and that

future generations would, in consequence of this increased knowledge of natural science, be intellectually superior to past generations, brought up chiefly in the old classical schools. Unfortunately this bright vision has not been realized. Liebig confessed in after years that his earlier impressions had been erroneous. He stated that he frequently observed among his own students in chemistry, that although those coming from technical (scientific) schools appeared at first, in all that related to natural science, as giants compared to those having received a chiefly classical education, yet that the latter, in most cases, not only soon made up the deficiencies in this respect, but in the end generally outstripped their technically educated rivals."

Prof. Green quotes from Prof. Thiersch as follows: "Even mathematicians find that students from a good gymnasium make better progress than those who come from practical high schools, where the classics are excluded." We could quote the testimony of others, referred to by Prof. G., as evidence of the advantage which a classical education gives to those having it over those who are without it, but it is not necessary. Prof. G. himself speaks as follows as regards a higher education: "After an intercourse of many years with college students, I can testify to the advantages derived from regular courses of study. It is not uncommon to see young men who tire of the higher curriculum, and imagine that a course of reading in history, biography, or literature, is of far more value than the studies of the recitation room. I never knew one who equalled in mental power those who pursued the course so long tried and approved by the world's best educators. For a time the frequenter of the library or reading-room appears to better advantage to his fellows than the diligent student of the studies of the regular course. It will be observed that he who occupies his time on the studies which give the best mental discipline, soon outstrips those who suppose they are pursuing a more practical course; for soon after he has entered upon professional life he acquires all the knowledge that the other gained, but gained at the expense of loss of training.

"Practitioners who have given any time to the instruction of office students, and professors in medical schools, must have observed a difference between those who enter upon their studies with imperfect preparation and

those who have had the advantage of a better culture. There is much in learning how to study, and after a course of four years in college, and several spent in preparation for the four years' course, it must be that a young man has learned how to apply himself to professional studies. I have had young men to apply in the midst of their college course for instruction in medicine, and I have invariably directed them to finish the first before they entered upon the other. I know several who are now in good positions who never could have entered upon them had they neglected my advice, and all of them I know, feel that they owe me a debt of gratitude for the advice which I gave them, and which they followed. A very large number of young men who seek office instruction would gladly follow the advice of preceptors; they wish to know what is necessary in the way of preparatory studies, and if not directed to the proper course, I doubt not they will in after years feel that they have not received the counsel which should have been given. Students who have been in preceptors' offices, and read many medical books without the requisite preparatory education, appear for a time after they have entered the medical college to better advantage than others who have not read so much, but have the ability to acquire knowledge, and do so, and soon show their better culture. The editor of the *London Medical Times and Gazette* (December, 1879), said, recently: 'A somewhat prolonged experience teaches us that of those who enter our schools from the surgery, and those who enter from the public school or college, the former may have for a short time the pull over their opponents, but the scientific training soon tells, and it is not long till the order is reversed.'

In continuing to speak of a higher education of medical men, in which is included a knowledge of the ancient languages, Prof. Green says: "I have known young men to rely upon the possession of the medical degree as a passport to influential positions in society. The medical degree is what its holder makes it to be for himself, and is in this like all other gifts and possessions. A medical degree without the culture which it implies will not commend the doctor. The lack of culture, soon discerned, forbids the taking of a position which a member of a liberal profession should take, and in which he might make himself useful to the community. . . . It is one of

the encouragements of the times that the present improved popular system of education will demand a higher education for the physician than was common prior to the adoption of our present common school system. The simple possession of the title conferred by the medical school will not be a passport to the best positions in which the profession is to be pursued, nor will it give its owner the status due to a liberal culture when he does not possess that culture."

The father of Dr. Franklin prevented him from taking a regular college course, yet he acquired by his own exertions a thorough classical education. A translation by him of one of Cicero's philosophical treatises will be found published in Bohn's Series of Classical Translations, "*De Natura Deorum, Ad M. Brutum.*" Says Prof. Green, in speaking of him, quoting from Sparks, "He studied navigation, Locke on the Understanding, and the Art of Thinking by Messrs. de Port Royal, the Arts of Rhetoric and Logic, in the latter of which he learned the Socratic method of dispute, of which he learned more in Xenophon's Memorable Things of Socrates, and attained an acquaintance with the French, Italian and Spanish, and was surprised to find, in looking over a Latin Testament, that he understood more of that language than he had imagined, which encouraged him to apply himself again to the study of it, and he met with more success. . . . He has left his estimate of classical learning in his proposal for an academy: 'When youth are told that the great men, whose lives and actions they read in history, spoke two of the best languages that ever were, the most expressive, copious, beautiful; and that the finest writings, the most correct compositions, the most perfect productions of human wit and wisdom, are in those languages, which have endured for ages, and will endure while there are men; that no translation can do them justice, or give the pleasure found in reading the originals; that those languages contain all science; that one of them has become almost universal, being the language of learned men in all countries; and that to understand them is a distinguishing ornament; they may be thereby made desirous of learning those languages, and their industry sharpened in the acquisition of them.'"

Prof. Green, in his interesting address, urges the importance of a higher education to physicians at consid-

erable length. We regret that space will not permit us to quote further from what he has to say upon the subject. We are glad that prominent men of the profession are urging the necessity of young men to become educated before entering upon the study of medicine. And not only so, but that they should seek, not merely an English or scientific education, but a thorough classical one. The latter, in fact, imparting the mental discipline that best prepares for the study of medicine. We rejoice with Prof. Green that the evidence is that the proportion of graduates of colleges of those who commence the study of medicine is increasing every year. He states that a friend, on examining a large number of medical journals, found that more than one-third of the contributors of one journal had received the degree of A. M., and that from one-fifth, one-seventh and one-tenth of those of other journals had likewise.

Prof. Green, who has been a member of the profession for over forty-five years, has had large opportunity of noting its progress. Though not a teacher in a medical school, but holding a chair in one of the oldest and foremost colleges of this country, and a gentleman of great learning, yet he takes a most active interest in medical progress. He was one of the founders and first Presidents, we believe, of the American Academy of Medicine, and recently President of the Pennsylvania State Medical Society, showing that as his years increase his activity and professional enthusiasm do not diminish.

“THERE IS NOT MUCH IN IT.”—This expression, which we have adopted for a heading, was recently made by a physician who does not reside more than an hundred miles from Cincinnati, when the microscope was mentioned to him by a layman. Of course, our readers will suppose that he must be a very ignorant man and of no standing in the profession. But we will assure them that they are mistaken. On the contrary, he considers himself, and is considered, both by the community and the most of his medical brethren as eminent in his profession, and is of high standing socially. Although he has not a college education, yet he is regarded as an intelligent man, and has written not a little for publication. We believe, too, that he has been called upon to make addresses away from home.

Such an expression from such an individual is remarkable, and we scarcely know how to account for it. If he was a grossly ignorant man, of but little modesty, and full of ignorant self-assurance, we would unhesitatingly ascribe it to his ignorance; for it is difficult to imagine that there can be one of any other class that would be disposed to depreciate the value of the microscope. Has there been any other instrument that has accomplished more, if as much, for science? Certainly medicine is more indebted to it than to any other. It has done so much here, that we scarcely know how to begin to tell what it has done. In fact, it really seems to us, at a glance, to have done everything. Without it there could have been no science in medicine at all. "To begin with the beginning"—histology. Without the microscope there could be no histology—*i. e.*, such a branch of knowledge. The foundation of all structure is the cell, and its increase is the increase or multiplication of cells. But we could not have known of the existence of such a body as a cell unless the microscope had revealed it. And it also revealed how cells are multiplied by division; and tissues, and structures, and organs thus created. But we have not time nor space to recount from the beginning, in regular order, how medicine has been built up into a science and art by means of the microscope. We will only mention at random, what we would not have known anything about if it had not been for the revelations of the microscope, and then we will let the gentleman who considers "there is not much in it" think over to himself what we do know. The red and white corpuscles of the blood, although of the highest importance both in health and disease, and in the latter, often have our remedies directed to them, are so exceedingly minute in size that they can not be seen by the unaided eye, and, consequently, we never could have known of their existence without the microscope. Nor could we have known without it anything in regard to the network of capillary vessels that connect the arteries and veins. Turn the attention to the *primæ viæ*, commencing with the lips, lined with mucous membrane throughout its whole length. How studded is it from commencement to termination with most important organs, all of which are microscopical in size. We could have no knowledge how digestion and absorption take place, if we had not the means of magnifying the size of the organs by means of

which it is accomplished. How came we to know of the acini of the liver, containing a portal capillary within and the other vessels disposed without? Without magnifying lenses we could have known nothing of the peculiarities of the hepatic circulation. And the same can be said of the novelties of the arrangement of blood vessels of the kidneys, and the curious Malpighian bodies which the microscope exhibits so beautifully. And these singular bodies remind us of the spermatazoa and their active movements, which are microscopical.

But the gentleman who thinks there is not much in the microscope, may say that he admits that the microscope has done much in histology, etc., but that the general practitioner, having learned all about its discoveries in books, has no need of the instrument in his practice. Consequently, "there is not much in it" for him, for he has no time to study histology. We think, however, he would be a better doctor if he only studied the histology of the leaf of a flower occasionally, for which he might certainly find some time now and then. But the microscope is of the most important service in practice, so much so, that it ought to be called into use every day. The information which is obtained from urinary deposits has now become so important by the progress of pathology that the intelligent physician feels called upon to examine them in a large number of his cases; and the microscope by defining the crystals or exhibiting epithelial cells and tube casts, etc., discloses, oftentimes, at once the most important information. Again, how often is the medical attendant put into the possession of valuable information as regards the character of a lung affection by what he finds in the sputa of his patient? In anemia and chlorosis he frequently learns much by examining the blood. In discriminating secretions and excretions he often finds use for his lenses, also, often, in making out peculiar tissues. Really, there are so very many uses for the microscope by the physician in the way of his practice, which suggest themselves to us, and which we would suppose would occur to the minds of all, that it seems absurd to enumerate them in the way of evidence of the value of the instrument to every practitioner. We feel sure that *we* could not dispense with it.

Let any of our readers take up a work on medical jurisprudence, and we feel sure that they will find abundant

evidence of the value of the microscope as a medical instrument. By it the physician can determine at once whether certain stains are blood stains or not; and if they are, whether the blood is that of a mammalia or not. But this will suffice. Scores of pages of almost any work upon medical jurisprudence will illustrate the importance of the microscope.

We do not wish to be suspicious, but we can not help suspecting that the medical gentleman who has been reported to us as speaking disparagingly of the value of the microscope was induced to do so because he himself had no practical knowledge of the use of it; and, consequently, he desired to excuse his ignorance by depreciating it. We hardly believe, though, that he will be able to deceive any one.

MISANTHROPY OF DEAN SWIFT.—To what extent an individual may be misanthropic consistent with sanity, is difficult to determine. To be insane to any degree, is admitted by all authorities, to have disease of the brain. But how an organ can be ever so little diseased without all of its functions or faculties being more or less affected, is difficult to imagine. That there should exist in the brain such a pathological condition, may be an effusion of lymph, a tumor existing, or a limited amount of softening, with certain of the emotive functions—the moral faculties—undoubtedly morbid, so that a person is not to be regarded as responsible, and, at the same time, all the other faculties of the mind are perfectly healthy, and some of them exhibiting great power and activity in normal action, is hard to understand. This, however, seems to have been the fact in the case of the brilliant and distinguished Dean Swift. The misanthropy manifested by him was not exceeded by any exhibited in any undoubted lunatic we ever saw in an institution for the insane, and yet he was a most brilliant writer—his literary productions being ranked among the standard classical literature of the English language. The greatness of his learning, the brilliancy of his thought, the pungency of his satire was unsurpassed. As a theologian, statesman, poet, wit, he had no superior. Notwithstanding, however, all this intellectual greatness, if to be exceedingly misanthropic, so much so as to have an

utter detestation of the whole human race is to be insane, Dean Swift was insane during the most brilliant time of his career, and had disease of the brain. We are aware that his mind failed shortly before his decease, but that undoubtedly was the consequence of broken-down health and long continued tax of his mental powers—a general decay of intellect and body together.

Sir Walter Scott relates of Swift that he early adopted the custom of observing his birthday as a term, not of joy, but of sorrow, and of reading, when it annually recurred, the striking passage of Scripture in which Job laments and execrates the day upon which it was said in his father's house "that a man-child was born." Those who have his works have doubtless read his "Voyage to the Houyhnhnms," which was inspired by his excessive misanthropy. Scott, speaking of this work, says: "The source of such a diatribe against human nature could only be that fierce indignation which he has described in his epitaph as so long gnawing his heart. Dwelling in a land where he considered the human race as divided between petty tyrants and oppressed slaves, and being himself a worshiper of that freedom and independence which he beheld daily trampled upon, the unrestrained violence of his feelings drove him to loathe the very species by whom such iniquity was done and suffered." But not many years ago moral insanity had not been heard of; and, therefore, neither Scott nor any of his *confreres* could have conceived that Swift, in the midst of his brilliant intellectual display, was a lunatic, and was, therefore, not responsible for such manifestations of misanthropy. According to present opinions, there was actual disease of his brain, and this disease was not necessarily the result of many disappointments preying upon a sensitive mind. but might have arisen from causes entirely foreign to such a condition.

No doubt many at this day, who have experienced the most bitter disappointments, have been betrayed again and again by professed friends, have had their merits unappreciated, have been mortified and chagrined a "thousand times" by being passed by, and charlatans and pretenders preferred to them by those from whom they had expected better things, we say, no doubt many such feel almost as if they could understand how Swift could be as misanthropic as he was, and yet not be insane. Their

feelings are disposed to attest that an individual could regard all men as liars, scoundrels, etc., and be in a perfectly normal condition as regards his moral faculties, for that the experiences of life fall not far short of proving such to be the fact. If our biblical remembrance does not fail us, the Psalmist David somewhere says, "I had come near saying that all men are liars." But we must accept, we presume, the declaration of learned alienists, and regard an individual morally insane who is of the undoubted belief, and acts upon it, that all men are depraved and without virtue, although he may be intellectually a giant—his intellect exhibiting great power and acting normally in every respect—that this latter condition is consistent with disease of the brain existing at the same time.

DECEASE OF DR. J. L. VATTIER.—The community was shocked to learn of the death of Dr. Vattier, which occurred suddenly, at his residence, No. 508 West Seventh Street, at 2 o'clock A. M., January 13.

The Doctor, the day before, was in his usual health and spirits, and, during the afternoon, attended the organization of a successful mining company, to which he was elected Vice-President.

Dr. Vattier was born on October 31, 1808, in an old-fashioned hip roofed house on the corner of Front Street and Broadway, where now stands the wreck of the Spencer House. His education was received from the best private preceptors of the day.

With a view to the practice of medicine, he left school, and entered the service of an apothecary. The year 1827 found him studying medicine under the tutorship of Professors Whitman and Cobb, in a medical college, from which he graduated three years later, and began practice in Indiana. The practice not proving lucrative he returned to Cincinnati, and opened a dry goods store on Fifth Street, between Main and Walnut, the store being called "The Good Samaritan." Later, he ventured unsuccessfully in the same line in Louisville, and returned to Cincinnati.

In 1836, he again resumed practice, and, with the exception of seven years, followed it until his death. The first Ohio Senate held under the Constitution found

him a member. This was in 1851. Two years afterward President Pierce made him Postmaster of Cincinnati, a position he retained under Pierce and his successor, Buchanan, until May, 1858, when he was superseded, but reinstated by President Buchanan in October, 1859.

He originated the enterprise of a street railroad, having organized a company as early as 1853, but failed in the effort for want of a franchise. Five years afterward, he again agitated the subject, and obtained a franchise that was, however, so loaded with damaging restrictions, as to result in a second failure. The Doctor was a prominent Mason, being Grand Master of the Grand Encampment of Knights Templar of Ohio. The Vattier Lodge was named after him, in honor of the man.

A meeting of the medical profession was held on the afternoon of January 14, at the Dental College, when the following resolutions were passed:

Resolved, That by the death of Dr. John L. Vattier the medical profession of Cincinnati has lost one of its oldest and most respected members.

Resolved, That as a man and citizen Dr. Vattier has ever been held in the highest esteem by this community for his integrity and honesty of purpose, and that in the many public offices to which he was elected by the suffrages of the people, or filled by the appointment of National, State and municipal governments, he proved himself competent and trustworthy, and in those trying relations he has left to his family and his friends that priceless heritage, a stainless reputation.

Although he belonged to the older generation of medical men, he was for his years a man remarkable for the warmth of his nature, and the almost youthful buoyancy and elasticity of his emotions. He had a large fund of good humor and a keen sense of the ridiculous. Symbolically speaking, he was a man of large heart and large brain.

Resolved, That in the social relations he was a sincere and devoted friend; as a public officer, zealous and faithful in the performance of his duties; as a medical man, honorable and conscientious in the treatment of his patients, and in his relations with his medical brethren, just, courteous and dignified; that in connection with the medical colleges, hospital, and the other corporations of this city, he labored earnestly and effectively to build up those in-

stitutions, and by securing for them the best medical talent, to give them a national reputation.

Resolved, That our sympathies be extended to his family in this their sad bereavement, and that we will further mark the respect in which we hold his memory by being present at the funeral services.

Resolved, That a copy of these resolutions be published in the daily papers and medical journals of this city, and a copy sent to the family of the deceased.

DRS. JAS. H. BUCKNER,
W. W. DAWSON,
J. P. WALKER,
DAVID JUDKINS,
JOHN MURPHY,
Committee.

DECEASE OF DR. J. F. WHITBECK.—We recently learned with great regret the decease of Dr. J. F. Whitbeck, of Rochester, N. Y. The cause of death was pneumonia. His age was sixty-eight years.

Dr. Whitbeck was born September 27, 1812, at Claverack, Columbia Co., N. Y. In early boyhood he removed to Herkimer County, and here began the study of medicine, graduating at the age of twenty-five from the Fairfield Medical College in that county. He began the practice of medicine at East Avon, N. Y. His next residence was Rochester, where he moved some thirty years ago. Since that time he has lived in that city in the constant practice of his profession. In March, 1854, his first wife died, and, subsequently, in November of the same year, he was married to his present wife, then Miss L. E. W. Smith, daughter of Peter Smith, an old resident of Rochester. Dr. Whitbeck was a prominent member of Genesee Falls Lodge, Ionic Chapter and Cyrene Commandery of the Masonic fraternity, and was at different times the presiding officer of each of these bodies. For many years he has held the office of Prelate in the Cyrene Commandery. He was also a member of the various bodies of the Scottish rite. In the fraternity he has always been active and has commanded the respect of his brethren in a greater degree than any other Mason in the city. He was connected with the medical societies of the city and county, of Western New York, and also with the Ameri-

can Medical Society. Of the two first named societies he has been President. He was a prominent member of the medical staff of the Rochester City Hospital, and was also during the war the surgeon of the 108th New York volunteers. As a physician he ranked among the highest, and was recognized by all as a most competent and able man in his profession. A man of very warm friendship, his circle of friends was an extremely large one, and in his social, no less than in his professional life, he commanded and received the respect of all with whom he came in contact.

THE WAY OF TRANSGRESSORS.—Last week, in the case of Dr. John Buchanan, formerly Dean of the Eclectic Medical College, Pine Street, above Fourth, Philadelphia, and of the American University of Pennsylvania, charged with conspiracy to defraud the United States, a fine of \$500 was imposed by Judge Butler, in the United States District Court. Added to this were the costs of the prosecution, and the prisoner will also have to undergo ten months' imprisonment. M. V. Chapman, in the same case, was fined \$500 and costs, and sentenced to a year and ten months' imprisonment.

Dr. Charles Earl, convicted of malpractice, which resulted fatally, was sentenced, in Chicago, recently, to five years' imprisonment in the penitentiary.

Little by little, such characters are being weeded out of the profession.—*Medical Reporter*.

LARGEST BOOK PUBLISHED.—The new edition of Webster's Unabridged Dictionary, just issued, is believed to be, in the quantity of matter it contains, by far the largest volume published. It now contains about 118,000 words defined, and nearly 15,000 words and meanings not found in any other one dictionary. The Biographical Dictionary, just added, supplies a want long felt by the reader and student, in giving the desired information so briefly. Never was any one volume so complete as an aid in getting an education.

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ORIGINAL CONTRIBUTIONS.

Michigan State Board of Health.

Reported for the Cincinnati MEDICAL NEWS.

At the regular quarterly meeting of this Board, held on Tuesday, January 11, 1881, at its office in Lansing, the following members were present: R. C. Kedzie, M. D., President, of Lansing; Hon. LeRoy Parker, of Flint; Rev. D. C. Jacokes, D.D., of Pontiac; John H. Kellogg, M. D., of Battle Creek, and Henry B. Baker, M. D., Secretary.

VENTILATION.

Rev. Dr. Jacokes, Committee on Ventilation, reported some experiments which showed that through registers of equal size, one at the top and the other at the bottom of the room, the velocity of the upper current of air outward was greater than at the lower register. When the ventilation was from the bottom only, the temperature of the room was higher than when the ventilation was from both top and bottom registers. These experiments, he claimed, demonstrated that ventilation should be from the bottom in this climate in winter. Dr. Kedzie reported the following experiment, which seems to show the same fact. He took a glass tube, thirty inches long, having a thermometer in the lower end. When the tube was closed, and the upper end heated to 750° F, the thermometer rose but one degree in an hour; the lower end of the tube being opened and air being drawn from it through the tube, the same heat being applied at the upper end raised the thermometer below over 100° in one minute.

Dr. Kedzie stated that in conversation with the newly-

elected Governor, he had seemed to appreciate the work done by this Board, and in his message to the Legislature had recommended an additional appropriation of \$2,000 for the uses of the Board.

LAWS DESIGNED TO PREVENT ACCIDENTS.

Mr. Parker, Committee on Legislation, in the interest^s of public health, reported progress in the careful study of the laws relating to punishment for carelessness causing accidents, such as the falling of the "grand stand" at Adrian, and said in his opinion the laws are stringent enough now, but the sentiment of the people does not hold a man guilty of murder through an act of negligence. There was no law, however, requiring expert inspection of public buildings constructed or in course of construction. Mr. Parker also reported on a proposed system of

INSPECTION OF STEAMBOATS

and other sailing vessels on our many inland lakes and streams, at summer resorts, etc. He had prepared a bill providing for such State inspection, and he was requested to take measures to have the bill presented to the Legislature.

THE WORK OF THE OFFICE.

The Secretary's quarterly report of work mentioned the preparation of diagrams and other labor in preparing and printing the report of the Board for 1880, and similar work on two volumes of vital statistics; the distribution of documents published by the Board, and of blanks for return reports; and preparations for the sanitary conventions to be held under the auspices of the Board; five hundred and fifty-three communications have been written during the quarter.

ADULTERATION OF SUGARS.

The Secretary reported that he had collected samples of sugars and syrups from the leading dealers in the city, and had received from Prof. S. P. Sharples, of Boston, the result of his analysis, which showed that the sugars were mostly not adulterated, and but two out of ten of the syrups. It is due to the dealers to state that those found to be adulterated, were so sold by them, namely, as "corn sugar" syrups, "glucose" syrups, etc.

DIPHTHERIA.

Dr. Kedzie mentioned a horrible superstition in Russia, under which a wafer is put into the mouth of a child suffering with the disease, and then into the mouth of a well child, with the idea that it is a protection against the disease. As it is a communicable disease, it would be difficult to devise a more certain mode of spreading it.

POISONOUS JELLY.

A sample of apple jelly was sent to the Secretary with the statement that eating of the jelly had caused the sickness of a large family. Dr. Kedzie had analyzed it and found three grains of sulphate of zinc to each ounce of the jelly. It was probably in the form of malate of zinc, formed by the action of the acid of the fruit on the galvanized iron vessel in which it was boiled. If this was the fact, it illustrated the danger of using such vessels for such purposes.

YELLOW S IN PEACHES.

Dr. Kedzie reported an examination of peaches affected with the yellows. They were of fine appearance, rather red, especially about the pit. The meat was watery and decomposed rapidly. Chemical analysis showed excess of water and deficiency of sugar and jelly-forming material. He read letters from some who thought eating the peaches was not injurious to the health, and from others who stated the facts of sickness in repeated instances after the eating of such peaches.

"HOG CHOLERA."

Dr. Baker made a report as special committee to study the relations between the prevalence of "hog cholera" and the public health. His report included a statement of his trip to the southwestern part of the State where the disease prevailed, and numerous letters from farmers, physicians and veterinarians, among the latter, Prof. Law, Prof. Klebs, and Drs. Detmers and Salmon. A letter from Dr. Jerome, of Saginaw, stated that he saw hogs suffering with the disease, who were unable to go up the inclined plane at the slaughter houses in Chicago, were killed and made into lard, and stamped with a fancy brand. In this same connection, Dr. Baker spoke of

LARD WHICH CAUSED SEVERE SICKNESS

in a family in Lansing. A sample of the lard had been microscopically examined by Dr. Detmers, of Chicago, who sent drawings of the organisms he found in it, stating that they were the same as he had found to be the contagious principle in "hog cholera," sometimes called "swine plague." He also read a letter from Dr. Marshall, of Lansing, which said he had examined a sample of the lard in which the "fried-cakes" (eating of which caused the sickness) were cooked, and had found the same organisms to be present. Dr. Baker also read a part of a letter from Prof. Klebs, of Prague, Austria, relating to the same subject. Prof. Klebs has made a special study of such subjects, and claims to have found the organism which is the specific cause of typhoid fever. He does not think hog cholera to be the same as typhoid fever, but would like material with which he could carry on a comparative study.

A vote of thanks was extended to those citizens who had labored so hard to make the

SANITARY CONVENTION AT FLINT

a success. The Convention will be held on January 25 and 26, 1881.

Dr. Baker stated that

CONTAGIOUS DISEASES PREVAIL MOST

where it was noticeable that the local authorities paid little or no attention to the laws requiring the appointment of a health officer, and communication with this Board.

The Board adjourned to meet at Flint, January 25, 1881.

What is the Cause of Labor, and What are the Physiological Changes or Processes (if any) which Superinduce it?

BY JAMES BARNSFATHER, M.D., PLEASUREVILLE, KY.

In Cazeaux's "Theoretical and Practical Midwifery," page 283, will be found the following: "It is universally admitted that delivery is affected by the contraction of the uterus, but the question has been raised, Why does this

contraction take place at the end of gestation? On this point, Power's theory seems to have gained the assent of the majority of accoucheurs." [I will here give Power's theory as briefly as possible. It is, that the uterine tissue at term may be justly compared to that of the other hollow muscular organs, the bladder, or rectum for example; for, as an irritation of the neck of the bladder, or the sphincter ani, is capable of producing an urgent desire to urinate, or to go to stool, so, irritations affecting the cervix uteri, also solicit the contractions of that organ.—B.] "It does seem to us, however, that the question has been badly put, for how can we believe that the muscular fibers of the uterus *do* remain inactive for nine months, and enter into contraction only at the termination of pregnancy. We feel justified in asserting that the uterus contracts throughout the entire period of gestation. We would, therefore, reverse the question and ask why, if the contractions take place throughout the entire period of gestation, do they expel the ovum only at term? The first reason to be adduced is, that the contractions, though feeble and insufficient at the outset, grow stronger as the development of the middle layer of the uterus progresses, but not until the end of the ninth month have the muscular fibers acquired sufficient contractility to effect the expulsion of the child. In the second place we would add, that the contractions which occur during the course of gestation make a fruitless effort to dilate the firm and resisting tissue of the uterine orifice."

To my mind, the two reasons here given by this authority fail to throw any reasonable light upon this question. Muscular fibers in all parts of the body are continually contracting and relaxing (and he also admits that they do so throughout the entire period of gestation), consequently that fact has nothing to do with *the primary cause of labor*.

"Dr. Tyler Smith, of London, has lately endeavored to prove, in accordance with the observations of Carus, Mende, and Merriman, that the determining cause of labor must be sought for in the ovary; that natural labor always corresponds with the tenth menstrual period, and that the congestion of the ovaries produced by reflex action, first a simple irritation, and ultimately true contractions of the uterine parietes."

Now, for argument: *If* we will admit, as proved, that

ovulation goes on during pregnancy, we would like to know why this reflex action of the ovary *should only excite the uterus on the tenth period?* Why not on the ninth, eighth or seventh period? Some years ago, M. Brown Sequard suggested a theory, which, to say the least, is very ingenious. He states that the muscles of the uterus, like all other muscles, are very sensitive to the contact of venous blood, and the carbonic acid gas, which the latter contains in large quantity, is capable of producing their contraction. This contraction he says produces pain, which stimulates a reflex action from the spinal column, the blood being pressed out of the uterine sinuses; after a short time the relaxation of the uterine fibers allows the venous blood to flow back into the sinuses, when the same process again takes place. In reply to this theory, I would ask, why does this venous blood only begin to act at the ninth month, as we have venous blood passing through the uterine sinuses during the whole period of gestation?

In the Cincinnati MEDICAL NEWS of December, 1880, I endeavored to prove that the uterus only performs *one* function, and that that function may be intensified or not, by the presence of a vitalized or a non-vitalized ovum. From the researches of Drs. Aveling, Handfield Jones, and Williams, of London, it has been pretty well established by the examinations of the uteri of women who have died at different menstrual periods, that the uterine mucous membrane in the non-parturient female has an average life of thirty days, when it becomes ripe; fatty degeneration then sets in, with rupture of the blood-vessels, and extravasation of blood into the soft tissues, followed by molecular disintegration. It has also been proven that the proliferation of the new membrane commences at the inner orifice of the os internum, and gradually proceeds toward the fundus. The retrograde metamorphosis also begins at the inner orifice, and gradually extends upward. Thus, we see that the non-vitalized ovum has *no* power to prevent the maturing or ripening of the membrane, *although one reaches it every inter-menstrual period.* But let a vitalized ovum reach the fundus while the mucous membrane is in a state of active development, we will then find *that the primary endosmotic action of the vitelline membrane stimulates the uterine mucous membrane to the highest activity.* Following

this process, we find the villi of the chorion ingrafting themselves upon the mucous membrane, whose vessels, under the stimulation, undergo development, forming vast numbers of loops between the villi, with deposition of amorphous matter. This process eventually forms the cotyledons of the placenta. Thus the placental attachment is formed, and it is at the same time a maternal and a foetal organ. This stimulation goes on and prolongs the life of the membrane from thirty days (the non-im-pregnated condition) to two hundred and seventy days, when it becomes ripe; *fatty degeneration then sets in*, and as a matter of course, the muscular walls having a ripe, and now degenerated, membrane and attachments within them, contract, in order to expel their contents, and continue to do so more and more rapidly as the fatty degeneration proceeds, until at last they are forcibly expelled from its cavity. *Now, if the process of parturition depends solely upon the state of fatty degeneration of the placenta* (or the excessive development of the mucous membrane of the fundus, with its attachments), what part does an oxytocic (*e. g.* Ergot) play in the drama? *If the above is the true physiological process*, then ergot given at the *commencement of labor* is the prolific cause of the death of so many children (still-born), and also of the flooding of the mothers from the so-called inertia of the uterus. It is also the cause of hourglass contractions. Let us look at the subject for a moment. Here is a uterus, violently stimulated to contract by means of ergot, *before the natural physiological process is complete*; the consequence is, that the contents in its cavity are forcibly expelled before the organ is in a condition to properly close the uterine sinuses, hence the fearful floodings which frequently follow this outrage perpetrated upon the uterus. If, on the other hand, the accoucheur should again repeat the ergot immediately after the expulsion of the child, he will most probably find that instead of the placenta coming away, he will have a case of hourglass contraction, caused by the tonic contractions of the circular muscular fibers. Then comes the insertion of the hand to forcibly remove the secundines, which still further irritates the abused organ, and in all probability you will have on your hands a case of flooding, followed by acute endo-metritis, phlegmasia

dolens, or some of the other troubles that imperil the life of the parturient female.

Some years ago I made an extended microscopical examination of the post-partum discharges; the slides being taken daily until the cessation of the flow. It was one long and continuous process of fatty degeneration and molecular disintegration, *proving conclusively that it was only the continuation and completion of the primary cause of labor.*

JANUARY 6, 1881.

SELECTIONS.

Clinical Lectures.

PROF. DA COSTA'S CONFERENCE AT JEFFERSON MEDICAL COLLEGE HOSPITAL.

[Reported by Geo. F. Souwers, M. D.]

THE Professor of Practice of Jefferson Medical College has instituted a new departure in the clinical instruction of students. Under the method commonly pursued in our medical schools, there is little or no opportunity for the teacher to discover how far his teachings have resulted in benefit to the student, but under the plan pursued by Prof. Da Costa, which consists in submitting to each student a patient for clinical examination, treatment, etc., which examination is submitted for criticism to the Professor before the class, students are stimulated to make efforts which otherwise they would not. With the view of showing the good results thus obtained, we submit the following notes of one of Prof. Da Costa's clinics:

CASE 1.—J. G., aged 16. The history of this case, as obtained by the gentleman to whom it was assigned for examination, is as follows: The present outbreak of chorea is not the first attack of the trouble, but rather a relapse or fresh attack of an intermittent chronic disease. Some years since the patient suffered an attack of scarlet fever, about the termination of which acute inflammatory rheumatism made its appearance, constituting in fact a scarlatinous rheumatism; this rheumatism fortunately spared

the heart in its ravages, and to-day that organ is perfectly normal. The attacks of chorea made their appearance very shortly after and have maintained their position ever since, exhibiting themselves in repeated periodic outbursts, this present outbreak having extended over a period of six months, and shows no sign of having exhausted itself. The diagnosis is undoubtedly chorea, and for its relief and possible cure the patient was placed on a mixture of the chloride of iron and arsenic, in a menstruum of syrup and glycerine. Menstruation being defective and the girl anæmic was the reason for administering the iron, the arsenic being administered in order to brace up the nervous system, and also for its well-known good effects in chronic cases. The results of treatment have, however, been negative, the stomach has become irritable and repeatedly rejects the medicine; this being the case the remedy has hardly a fair chance.

In making some remarks on the case, Dr. Da Costa said: "This case is instructive from the question that at once presents itself, Whether or not rheumatism followed by chorea is always accompanied by some heart lesion? Generally this is the case, but we have here an exception to this rule; we thus see that we may have rheumatism as antecedent to chorea without an intervening heart lesion. Secondly, it is interesting to note that we have to deal with a scarlatinal rheumatism, developing while the system was still under the influence of a morbid poison. In treatment we have met with but little success, it remains to inquire whether a wrong selection of drugs was made or whether their administration was faulty. We must remember that a dyspeptic condition had to be met, and that while the chloride of iron and arsenic does not generally irritate the stomach, yet it may at times; further, it may be that the combination may not have agreed with the stomach. Acting on the latter assumption, we will administer the remedies separately, as follows: the tincture of the chloride to be given in twenty-drop doses, and the arsenic in the form of potassic arsenite five drops in a tablespoonful of water, three times a day, the iron to be given between, and the arsenic shortly after, meals. If this plan of treatment does not succeed, in about ten days we shall abandon it, and shall conclude that the wrong drugs have been selected for the case. In the event of abandoning this, which is

a very good form of treatment, we shall turn to the zinc oxide in gradually increasing doses in combination with belladonna or cannabis indica, our prescription being about as follows: Zinc ox. gr. ij; ext. belladonna gr. 1-16 or can. ind. gr. 1-8; sometimes I employ one, sometimes the other of these two latter drugs; the belladonna must, however, be gradually decreased in dose, as it soon shows its constitutional effects."

CASE 2.—The next case was reported on by Mr. Payne, a member of the class. C. W., aged 23, for eight or ten years has had great difficulting in breathing, and for the past two years has had a hacking cough, the paroxysms of dyspnoea are greatly increased if a fresh cold is taken; formerly the attacks lasted about one week, but under treatment they have gradually shortened, the appetite is good, and the bowels regular. The patient has never noticed any difference either in the quantity or the character of the urine, before, during, or after a catarrhal difficulty; a sense of fullness in the stomach exists. The lungs, examined just as he was recovering from a paroxysm, presented impaired respiration anteriorly and posteriorly at apex, prolonged expiration at left apex, sonorous and sibilant rales all over the chest, an impaired percussion note posteriorly; in the inner-scapular region mucous rales present; vocal fremitus impaired especially at left apex. Examination to-day, confirmed by Prof. Da Costa, shows no sonorous or sibilant rales, though there are some mucous and sub-crepitant rales posteriorly at left apex; inspiration is feeble, and expiration is prolonged, vocal fremitus is still impaired; the heart while beating a little too frequently is normal. Abdominal organs normal, tongue coated. Diagnosis, asthma with repeated attacks of bronchial catarrh; at the left apex catarrhal pneumonia. The prognosis is good, or at least fairly so, there is no tubercle present, and were it not for the length of time over which the trouble has extended we could guarantee a full return to health. The patient has been treated with iodide of potassum, both on account of its good effect generally on asthmatic cases, as well as its beneficial effects upon catarrhal pneumonia, the prescription given being potass. iod. gr. iij; tinc. bellad. mij; syr. prun. virg. ʒj; 5 per die; during the attacks *mxv.* of *grindelia robusta* being employed.

"I have but one thing to criticize in this treatment,"

said Dr. Da Costa (the diagnosis and pathological conditions having been properly rendered), "the amount of the iodide is not sufficient, and should be rapidly increased, especially on account of the presence of catarrhal pneumonia; it is preferable to use small doses of the tincture of belladonna rather than the fluid extract, the latter being stronger and making too rapid an impression on the system. The diet should be light, nourishing, and easily digested; small blisters applied over the left apex would be of decided benefit in this case."

CASE 3.—The next case was reported on by Mr. Wilhite. C. H., aged 7, two years ago was suddenly seized with a convulsion, attended by foaming at the mouth, grating of the teeth, rolling of the eyes, screaming, unconsciousness, etc.; clonic spasms held possession of him for nearly three hours; he was treated at this time for worms, but none made their appearance in the passages. For six months following this first attack no particular trouble was experienced, although he appeared rather silly, and would occasionally whirl around rapidly, and at times fall, constituting in fact an imperfect spasm; treatment for worms was again instituted, but without success, except the passage of a few seat worms. These convulsions instead of ameliorating rapidly increased in number and frequency, until he was repeatedly the victim of nine or ten spasms a day; these being continued during the night, each one lasting about twenty minutes, the patient after the convulsions being left in an exhausted and breathless condition. About six months ago the child lost the power of the right side, constituting a hemiplegia, but at no time has paraplegia been manifested. Six weeks ago the voice was lost and has not yet returned; mentally the boy is retrograding very rapidly; originally a bright, sharp looking boy, he now presents a dull, heavy appearance. Examination of the urine shows it filled with urates, but no albumen or trace of bile is present. Ophthalmoscopically examined the eye presents no evidence of choked disk, but a high degree of hypermetropia is present. The child has phimosis, but hardly in a sufficient degree to constitute an exciting cause of the convulsions.

The diagnosis is epilepsy, due to some coarse intracranial lesion. The treatment has consisted in the administration of sod. iod. grs. j; sod. brom. gr. viij; syr.

aur. cort. and aq. being the menstrua; the dose was administered twice a day.

"The question now, after approving of the diagnosis and treatment," Dr. Da Costa added, "is, What lesion, if any, have we to deal with? On first view of the case we might be tempted to accept the evidence of an intercranial tumor, either specific or non-specific. But this diagnosis could hardly be tenable for these reasons: there has been no evidence of headaches, either anterior to, or since the first convulsion; secondly, the ophthalmoscope shows no congested or choked condition of the eye-ground; finally the symptoms manifested have been too stationary in character to admit of the presence of an intercranial tumor; there can be no question that if an intercranial tumor were present, the convulsions would rapidly grow worse, instead of, as they now do, merely maintain a fixed degree of frequency. As to apoplexy, its infrequency in early life is against such a diagnosis. I think from all the evidence thus far adduced, that there is some lesion of the cortical substance of the right side of the brain, due either to inflammatory changes or some exudation. In favor of this view, is the fact that epilepsy is more apt to occur in cortical than in deeper lesions of the brain; further, you well know the cortex is intimately associated with intellection, and in this case we find intellection greatly interfered with as it so frequently is in cortical lesions. The boy from being a bright, promising child, presents that dull, heavy, vacant appearance of idiocy. The evidence further is in favor of the disease having taken place in the cortex of the right hemisphere, for the hemiplegia manifests itself on the left side. That the hemiplegia was primarily due to effusion or extravasation is proved by the fact of the extreme suddenness of its onset. Had the child a stomach that could bear it, I should prefer to give him larger and more frequent doses of the drugs which are now being employed, as it is, the dose will be increased as he can bear it. A counterirritant placed just back of the ears is sometimes of great service, especially if frequently repeated. The diet should be light, nourishing, and easily digested."

A Positive Sign of Pregnancy During the First Three Months.

BY J. H. CARSTENS, M. D.

THE difficulty of diagnosing pregnancy during the earlier months is well known, and a positive and unfailing sign would be of great value. Reading in a late number of the *American Journal of Obstetrics* of a discussion, which took place in the Boston Obstet. Society on this subject, and finding no mention made there, nor in the text books in general use, of a positive sign on which I have always relied, and which has in my experience never failed to enable me to make a diagnosis, it occurred to me to call your attention to this question. I was under the impression that it was a new, and heretofore not described sign, but looking over the literature of obstetrics, I found that it has been mentioned years ago by Jacquemier and Kluege, but it seems to have fallen into oblivion, and is not mentioned in the ordinary text books.

I refer to the color of the mucous membrane of the vagina and cervix uteri. This I have always found of a purplish blue, or rather deep violet hue, in pregnant women, and I have depended on this peculiar color in making a diagnosis of pregnancy in the first, second and third month. I say it has never failed, and it is not produced by any pathological condition, the different colors produced by uterine diseases can not be mistaken for this pathognomonic violet hue. I have often called the attention of students to this sign, and in dispensary practice it has repeatedly occurred that women under my treatment for uterine diseases have not attended for six or eight weeks, and hastily placing them on a table without inquiring about their last menstruation. I introduced a speculum, and was on the point of introducing a probe, or making an application to the uterus, when behold, there was the characteristic color. I desisted from further interference, and in every case which I could keep under observation the women were afterwards delivered in full term, or had a miscarriage.

I have also been prompted to write this paper on account of a case lately under my observation, which puzzled me, and the other physician called, the details of which I shall write up some other time.

The case was very peculiar; a woman under my treatment for endometritis and subinvolution. During the course of the treatment menstruation ceased; she claimed she was pregnant, but as I had applied various remedies to the mucous membrane up to the very fundus of the uterus, and continued to do so for some months, I insisted that she was not pregnant, and that it was impossible for her to be so. This continued for about five months, she claiming one thing and I denying it. Well, this woman had the peculiar violet discoloration, and I often asked myself the question, "Here is a case with the peculiar, and in your opinion, pathognomonic sign of pregnancy, and you say she is not in a family-way; how is this?" The vision of some day writing an article of value for the *American Journal of Obstetrics* suddenly vanished.

"Here," I said to myself, "is a case with the deep violet hue of the mucous membrane, she has other signs of pregnancy, but she is not pregnant, for you pass your probe readily to the fundus, your sign is not infallible." But it occurred to me that it might be a case of tubal or extra-uterine pregnancy, and I watched the case with great interest. One day I was called in haste, and imagine my feelings, when, arriving at the bedside, I found between the thighs of the woman a five month's dead foetus with the placenta still inside of the uterus. However unsatisfactory the case was otherwise, it, however, has strengthened my now unfailing faith in the sure sign of pregnancy, the violet hue of the mucous membrane of the genital organs.

It has been claimed by some that this color of the mucous membrane has been found in various pathological states. I claim that the discoloration in the latter case is different from that found during pregnancy, it is more blue and scarlet, mixed or dotted, nor is the peculiar soft, velvety condition of the membrane present. I can simply call it violet; it must be seen and then never will be forgotten. It is probably caused by engorgement of the veins.

All I ask is that this sign be again looked to and submitted to a rigid investigation, and I am sure that a verdict will be that it is the only sure sign we have at present to diagnose pregnancy from the first few weeks up to the fourth month. It has never failed me, I have often

staked my reputation on it, but when I failed to heed the warning color I came to grief.—*Detroit Lancet.*

A Remarkable Instance of "Mother's Mark."

DR. WM. HUNT, Surgeon to the Pennsylvania Hospital, of Philadelphia, relates, in the January (1881) number of the *American Journal of Medical Sciences*, a remarkable case, which in substance is as follows:

Annie L., aged 30, was admitted into the Pennsylvania Hospital May 8, 1880, for very extensive burns, caused by her clothes catching fire from a kitchen grate. Her back was the seat of one continuous burn. Both upper and lower extremities and the sides of her body were nearly covered with burns, and the face and anterior surface of the body were also injured in places. She was eight and a half months pregnant. She was finely developed, and had no evidence whatever about her of having had specific disease. Her husband was healthy, and so was a child of theirs of about six years old, who came to the hospital while her mother was there. Dr. Hunt saw the patient a short time after her admission, and, as the case was evidently to be a fatal one, he immediately auscultated for foetal heart-sounds, with the intention, if the child was alive, of performing abdominal section at once upon the death of the mother, in the hope of saving the child. The foetal heart-sounds were distinctly heard, but were so rapid as to make it impossible to count them. The mother's pulse was 116, her body temperature had increased, and she was in a condition of shock. Repeated auscultations showed excessively rapid and increased action of the foetal heart, and its pulsations were heard up to 12 o'clock P. M., May 9th. At 2 o'clock the same day it was found the heart had ceased to beat, so that death of the foetus heart must have taken place within these last two hours.

At 5:20 P. M. on that day active labor came on, and at 6:30 P. M. a well-formed, but dead, female child was born. The mother lived till May 15th.

The curious fact of the case is, "that *the child was apparently blistered and burnt in extent and places almost exactly corresponding to the injuries of the mother. . . .* The blisters on the child were standing out fresh and full,

as though recently formed, and in places the derm was deeply involved, as on the mother. . . . Of course, all ordinary explanations were suggested—pemphigus, syphilis, masceration, etc., etc., but upon examination . . . none of them fitted the case.”

Remarks on Vaccine Virus.

BY DR. J. H. H. BURGE.

IN a brief review of a late discussion on vaccination by the Medical Society of Kings County, among other things, Dr. Burge says :

“The records of the New York Dispensary and Kine-Pox Institution are also appealed to in the report, as showing an average of one case of erysipelas in every five hundred vaccinations with humanized virus, where no cases had ever come to Dr. Martin’s knowledge out of thousands of persons known to him to be vaccinated with true animal virus.

“Now, it does not seem to me at all surprising that one case of erysipelas should have happened in five hundred vaccinations in the N. Y. Dispensary—indeed, one-fifth of one per centum seems a small proportion, when we consider the character of the children who apply to such an institution. It may also be safely assumed that the atmosphere and general conditions favorable to the development of erysipelas are present both in a dispensary where fifty thousand patients a year are treated, and in the homes from which these patients come. I have vaccinated with humanized virus at least two thousand children, and have never in my own practice seen a case of erysipelas follow the operation. My own conclusion, therefore, is that if the source from whence the virus is taken, and the time and manner of taking it, and the method of its introduction, are all right, and erysipelas follow, we may be absolutely certain that the evil arises from the condition of the child, or his surroundings, and not from the virus or the operation, except, indeed, as an exciting cause.

“The first rule laid down by your Committee on Hygiene is, ‘Vaccinate with only pure virus.’

"Now, what is pure virus? We are all, of course, familiar with the fact that the original source was a vesicle upon the udder of a cow, which had a disease taken in the *natural* way. In the early days of my practice, when I heard occasionally of a resort to the bovine virus, I was simple enough to suppose that somebody hunted around among the fat and lean kine until he found one with the characteristic eruption of vaccinia, and that the market was supplied from this stock. This, however, was not the case; but *calves* were inoculated with what? Sometimes with virus from other calves, and sometimes with the very virus which some suspected had lost its virtue, and the ridiculous assumption reached that the resulting virus would not only be better than the seed, but as good as the original stock. This, however, does not represent the case in all its absurdity. We know from analogy that the perfection of vaccine must depend upon its being taken the natural way.

"The first method of lessening the virulence of small-pox was by insufflation. How long this practice was in use in India before the method of inoculation with variolous matter came into vogue we do not know, but this second method was equally successful, and both methods vitiated the disease, as they were intended to do. Now, if we institute an interminable series of inoculations among the calves, how long will it be before the vaccine disease is so modified, or mollified, that we can not expect it to hold its place as the greatest of all prophylactics?

"What virus have we now in use? Probably six or seven kinds: 1. We have, I hope, though I don't know where to obtain it, virus direct from the natural vaccinia. 2. We have humanized virus originally from the natural bovine vesicle. 3. A virus resulting from humanized virus introduced again to the system of the cow, and brought back to man. 4. Probably a virus resulting from inoculation of the cow with small-pox matter. 5. It is not impossible that we have a virus from other vesicular diseases in the cow, resembling vaccinia. 6. We have the calf to calf virus, originally from the true natural kine-pox, and now descended through a long line of induced cases of vaccinia."—[*Proceedings, Brooklyn, December, '80.*

Notes on Chian Turpentine, and its Use in Cancer.

BY PROF. JOHN CLAY,Obstetric Surgeon to the Queen's Hospital, Birmingham.

It is a matter of regret that the supply of the genuine Chian turpentine has been so limited, as this has led to the substitution of factitious drugs, the use of which, as I have previously explained, unfavorably influences the results, besides entailing the further disadvantage of preventing a thorough testing of this method of treating cancer. I believe that it is a fact that Chian turpentine, in mass, can scarcely be procured in this country at the present time, and therefore it is obvious that the treatment of the disease must be somewhat in abeyance until a supply of the pure drug arrives from abroad. There are samples of larch turpentine in the market, which slightly resemble the recently gathered genuine drug. It may be of advantage, therefore, to the profession to describe each, and to note their differences.

Specimen No. 1 is of a pale amber color, and almost entirely free from impurities. It has the fragrant odor peculiar to Chian turpentine well marked, which is readily perceptible after rubbing a small portion between the thumb and finger. It has a mild terebinthinate taste, which rapidly disappears. On placing a small portion of the drug on a piece of glass, and exposing it to the atmosphere, it considerably thickens after a few days' exposure.

Specimen No. 2. This, obtained last year, is the drug as collected. It contains a large quantity of foreign matter, such as pieces of bark, sand, etc., all of which give it a darker color than the last-mentioned specimen. Two ounces of this crude product yielded, after straining, upwards of half an ounce of impurities. The strained portion contained still a quantity of minute particles of foreign substances. The taste and odor are the same as in the Specimen No. 1.

Specimen No. 3 resembles soft glazier's putty, but is somewhat whiter, and is of the same consistence. It is Chian turpentine that has been well washed in water, to free it from its impurities. It has a mild taste of turpentine, and the peculiar odor is well-marked. If a portion

is subjected to pressure between two pieces of glass, water can be readily forced out of the mass.

Three specimens have been submitted to me as genuine Chian turpentine which were purely larch turpentine. They may, as alleged, have been gathered in Cyprus. They have a strong odor of pine wood, and are of a browner appearance than the recent specimen just described. On tasting a portion, it appears tasteless for the first minute, after which a strong, bitter, nauseous flavor became manifest, eventually leaving a strong, sickening sensation at the back of the throat, which is slow to disappear. A portion placed on glass, and exposed to the atmosphere for four weeks, showed no signs of thickening, and readily adhered to the fingers.

The mild terebinthinate taste of the pure drug, its peculiar odor with its power to solidify on exposure to the atmosphere, are characters sufficient to distinguish it from any other turpentine resin.

It is advisable not to be too precipitate in rejecting a case of uterine cancer on the ground of its being too far advanced for treatment. The following case, amongst others, is to the point. Mary B. took her discharge from the Middlesex Hospital, London, about four months ago, and, according to report, was informed that her case was incurable, and that she had not long to live. She became an in-patient at the Queen's Hospital, was placed under Chian turpentine treatment, and improved so much in nine weeks that she is about to return to London with every prospect of soon being cured.

The mode in which Chian turpentine effects the removal of cancer was well illustrated in a case of epithelioma of the vulva. The patient, aged 60, had been operated upon for cancer of the clitoris or vulva. The case was reported in the *Lancet* at the time. The patient thoroughly recovered from the operation. About a year afterwards cancer reappeared in the lower part of the vulva and vagina. The growth was again excised, and she made a good recovery this time. About eight months afterward a cancer appeared on the right labium, and when it was there seen for the first time it was the size of half-a-crown. It was determined to give the Chian turpentine, and the drug was given in full doses three times daily. At the end of the first week there was no alteration, excepting that the cancer was thought to be some-

what paler on its surface, and the surrounding swelling less. Second week: The growth was coated with a secretion of a greyish color which appeared to be firmly adherent. Fourth week: The growth was only half its former size. Its surface was somewhat convex; and was considerably thicker than previously, and was surrounded by a ring of a bright crimson color. One of the resident surgeons of the hospital who saw it remarked that it looked like a small mushroom springing from the vulva. Sixth week: The growth was now diminished to the size of a fourpenny piece, and was still surrounded by the bright colored ring, but was free from the secretion. The surface did not bleed on being touched. Eighth week: The colored ring had disappeared. The growth was much smaller, and it had the appearance of a large "seedy" wart, such as is sometimes seen on the hands. Tenth week: The growth remained about the same. Twelfth week: The growth had all but disappeared, and the patient went into the country for a short time, but promised to report herself when she returned.

In private practice three cases of cancer of the rectum are under treatment, two of which are much improved; and one has not been seen again, but a favorable report is given after seven weeks' trial. Three cases of cancer of the stomach are under treatment; one has discharged herself, but the other two have remarkably improved, as regards freedom from pain and capacity of retaining nourishment, though continual sickness existed previously. So far as the treatment has extended, these cases seem to prove that the turpentine is equally, if not more, efficient in cancer of the stomach than of any other organ. In one case the glands of the neck were much enlarged; but these swellings entirely disappeared after the use of the remedy. Four cases of cancer of the tongue have been under observation. In one case the growth was as large as a cherry, and in four weeks it was reduced to a level with the mucous membrane, and it appears now to be cicatrizing.

Several cases of cancer of the face have been very much benefited. In two cases of endothelial cancer of the abdomen, and one of cancer of the liver, no benefit seemed to be derived, excepting that in one case there was some alleviation of pain, and an improvement of general health for a time.

In all forms of cancer, where the turpentine has been taken for six or eight weeks, I have found the administration of a tonic to be of advantage, as it promotes the convalescence of the patient, and if the disease affects the uterus or rectum it seems to facilitate the escape of the debris from the destroying mass, and to promote cicatrization. Four minims of the tincture of perchloride of iron, and three minims of liquor strychniæ, taken three times daily, are recommended; and if there be any pain, which often happens after six months' use of the remedy, six drops of tincture of belladonna are added. A generous diet is allowed. Morphia is not advised. The bowels should be kept moved daily, when necessary, by a mild aperient. After the turpentine has been regularly taken for three or four months, I now recommend it to be discontinued for three or four days in the fortnight. It is probable that future experience will show that, after it has been taken for the above-named period, it will be no longer necessary in the majority of cases, but as a precautionary measure it has been generally continued in the manner just described.—[*London Lancet*, December, 1880.]

The Fungus of Syphilis.

BY I. BERMANN, M. D., BALTIMORE.

IN the winter of 1878-79 I received from Prof. Zeissl, a freshly-excised prepuce, containing an indurated (Hunterian) chancre. I had previously discussed with him the nature of the syphilitic contagium, and hoped by microscopical examination of this absolutely fresh specimen to obtain further knowledge on this highly important subject. The results were far above my expectation; but before speaking of them in detail, I would call attention to a very valuable paper by Prof. Klebs, of Prague, published in the *Archives of Experimental Pathology and Pharmacology*, vol. x., p. 161, entitled, "The Contagium of Syphilis; an Experimental Study."

An account is here given of the results of inoculation of a monkey with schizomycetæ (or micrococci and bacteria), obtained by cultivating the tissue of an excised *non-ulcerated* hard chancre.

The method of cultivation is the usual one: A small fragment of the above, together with some cultivating fluid (such as Pasteur's), is brought into a perfectly clean glass tube, drawn out into fine points at both ends, which are then hermetically sealed over a flame. This tube is then kept in an ordinary breeding oven for several weeks, whence it is removed from time to time in order to examine its contents.

At last, in successful cultivations, a small film appears on the surface of the fluid, which the microscope shows to consist mainly of bacteria and micrococci. With the fluid thus obtained a female monkey, among many other animals, was inoculated, and in the usual time (about six weeks) an outbreak of genuine syphilis followed, accompanied with all the attendant phenomena. (For further particulars see original)

Pisarewski describes small organisms found by him in all the specimens of hard chancres examined. Yet he failed to find the more highly developed forms of these organisms which enable us the better to understand what is the nature of syphilis. His failure can be, perhaps, attributed to the method used, or to the fact that he examined the tissue only in the immediate vicinity of the sclerosis. Although there were many appearances in these sections which indicated that these fungoid growths are the real causes of syphilis, I hesitated to publish my discovery without convincing proofs obtained by extending and corroborating investigations. What first attracted my attention, apart from those well-known changes taking place in the initial sclerosis, was a singular collection of micrococci and fungoid growths, firmly adhering to, and partly filling up, the lumina of most of the lymphatic vessels.

The micrococci are principally to be seen in the lymphatics, where they generally envelop the valves. They are small, strongly-refracting spherical bodies, and resemble those illustrated by Klebs. The bacteria, as this author describes them, I only find in a few instances, and *only* in the arteries. The size of these organisms corresponds with the figures given by Klebs. The principal changes have taken place in the lymphatic system, and chiefly at some distance from the initial sclerosis, and this explains why others have been unsuccessful in discovering these fungoid growths, they, probably, having

confined their researches to the limits of the induration. Wherever the fungi are most prevalent in the lymphatics, there we also find that the greatest change has taken place in the appearance of their tissue. This, in some instances, consists in amyloid "degeneration of the endothelium as well as of the surrounding tissue, so that it becomes very difficult to find any nuclei, which latter are brought out with great distinctness by the method I use.

The walls of the vessels are covered by micrococci, disposed in thick layers, while the valves of the lymphatics are also thickly studded with these, and, by their swollen and hardened condition, show that they have undergone an inflammatory process. It is to be observed that the nearer to the original lesion the more prevalent are the micrococci or sporangia, while at some distance from the induration we find the higher developed forms.

My theory of the disease is as follows: The infection takes place by reason of a few germs or micrococci being retained in a lesion of the skin. They are taken up by the lymphatics, and here they increase and multiply, spreading principally in these, and soon begin to obstruct the circulation in them. The consequence is an infiltration of the tissue surrounding these, and thus the induration is produced. In course of time they develop more and more; small particles of them get into the circulation of the blood, and are carried into different parts of the body. They take root at those points where the conditions are most favorable for their growth, and cause there, eventually, the same changes as before described. Thus they produce metastasis in various organs, but especially, in the beginning [that is, between 4 and 6 weeks after infection has taken place], in the capillaries of the skin, where they effect an extravasation of blood by stopping the circulation, we can not find a better explanation for the brown spots which remain after the exanthem has disappeared.

To prevent the development of the disease, with all its disastrous consequences, by means of cauterization, excision—circumcision, if possible [as recommended by Auspitz and others]—is indicated. At the same time, since we have not any other therapeutic agent to destroy these fungi producing syphilis, mercury in some form must be resorted to at once. Since the lymphatic vessels are the principal seats of the fungoid growth, and since

these are most readily reached by hypodermic injections, this mode of treatment seems to me to be the most efficient.—[*Archives of Medicine*, December, 1880.]

The Iodine Treatment of Intermittent Fever.

BY H. GIBBONS, SR., M. D.

THE proper place of iodine in the treatment of intermittent fever is not as a prompt anti-periodic, to prevent the immediate recurrence of the chill, but as an alterative, to be administered after the interruption of the paroxysms, for the purpose of preventing their return.

My first trials of it were to the exclusion of other agents, and indiscriminately. Twelve drops of the tincture three times a day, an hour after meals, was the formula. In a certain proportion of cases, say one-third at least, there was no recurrence of the paroxysm after instituting the treatment. Several old cases, strongly marked with the malarial cachexy, and which had been repeatedly and freely dosed with quinine, to my surprise, recovered with no other treatment. Indeed, the remedy is often most efficacious in such cases. But in the majority of patients the paroxysm returned, in spite of the iodine.

Having satisfied myself that the agent could not be depended on alone, I then adopted a mixed treatment, first breaking the chain of continuity in the paroxysm by a cinchona anti-periodic, and then instituting the iodine treatment exclusively. This course was successful, almost without a solitary exception. I may safely say that the chill did not return during the use of iodine in more than one case in fifty. In some instances of threatened return the dose was increased up to fifteen drops.

The toxic effects of the iodine, when they appeared, were developed mostly in the stomach and digestive organs. To loss of appetite and gastric distress were added a variety of unpleasant sensations, of which the patient complained without being able to define them accurately. One instance assumed quite a serious form, and continued for a number of weeks. In view of these consequences I adopted the plan of suspending the iodine for a short time, after about two weeks' use; and, when the cure was

well established, continuing it for a while on alternate weeks only.

. As to the *modus operandi* of iodine in this disease, I have only to say that it appears to exert a specific action on the malarial condition. Probably it does this through the liver and spleen, as congestion and enlargement of those organs will often disappear under its use. Without doubt, we are to take into account its well-known power of promoting absorption and stimulating the glandular organs.—*Pacific Medical and Surgical Journal*, p. 145, 1880.

Chloral Hydrate.

BY H. H. KANE, M. D., NEW YORK.

Chloral Hydrate may be given by the mouth, rectum or hypodermically, or by the intra-venous method. By the rectum we get about the same effect as by the mouth, both as regards rapidity of action and intensity and duration of effect. By the subcutaneous plan there is always danger of the production of deep-seated and superficial inflammation and the formation of abscess. The intra-venous method is unjustifiable, save in the very rarest instances, and is fraught with great danger. In the majority of cases, then, the drug should be given either by the mouth or rectum.

BY THE MOUTH.—Chloral hydrate should always be given in solution, as the drug in crystal is extremely irritating. Dr. Squibb prefers giving it in plain water, he believing that the syrup that is usually given to disguise the taste of the drug favors its breaking up. This plan is favored by not a few of my correspondents. A preparation known as Leibrich's syrup of chloral is advertised and extensively used in England. In giving chloral I have always found it most convenient to order a simple aqueous solution, say: *R.* Chloral hydrat, \mathfrak{z} iv.; aq., \mathfrak{z} iij, of which one drachm contains ten grains, and then ordering separately a bottle of syr. tolu or prunus virginian, and let the patient add a drachm or two of the syrup to each dose of the chloral solution at the time of taking.

Many physicians use the bromide of potassium with chloral in every instance, they believing that the former intensifies and prolongs the effect of the latter.

Bartholow found good effects in nervous disease from a combination of chloral, morphine and atropine; better than when either drug was used singly.

Bowers produced profound sleep, lasting from twelve to eighteen hours, with the following: *R.* Chloral hydrat, gr. 30; potass. bromid, gr. 15; tr. opii, gtt. 20 a dose.

Nearly the same is advocated by Dr. J. M. Lewis, of Kosciusko, Miss., who advocates the following, which he uses to produce sleep and quiet pain in every case where there are no contra-indications: *R.* Morphizæ sulph., gr. $\frac{1}{4}$; chloral hydrat., gr. 15. Repeat as often as necessary to relieve pain or produce sleep; occasionally combines it with potass. bromid.

With reference to the combined use of chloral hydrate and morphia, Bartholow says:

"These agents act much more favorably when administered simultaneously. Chloral causes sleep, morphia relieves pain, atropia prevents or lessens the depression in the respiration and cardiac movements caused by the other two, while it contributes to their cerebral effects."

"These physiological studies are confirmed by the therapeutical results. The combination of chloral, morphia and atropia is adapted to those cases of insomnia caused by pain, or in which chloral or morphia alone merely increases the cerebral excitement—as in hypochondria, puerperal mania, etc. This combination is also indicated in cases of fatty and irritable heart. When pain is to be relieved chloral is not so serviceable as the combination with morphia and atropia. The local administration—the insertion of the medicament at the site of pain—is more effective than the merely systemic impression. This is especially the case in tic-douloureux, sciatica and coccydinia, which are much more effectually treated by injections made in the neighborhood of nerves, the seat of pain. The combination of a local irritant and benumbing agent with a systemic anodyne is more curative than either used singly."

Dr. E. Chenery, of Boston, looks upon the combination in the same way.

Dr. F. D. Lente finds that combining a little codeia or McMunn's elixir with chloral enhances the effect of the latter.

Dr. A. P. Hayne, Inebriates' Home, San Francisco, has used the combination of chloral hydrate and bromide of

potassium in a large number of instances (2,000 to 3,000), and finds that the bromide not only enhances the effect of the chloral, but acts as a guard or check upon its occasional ill effects.

Ore found that two drops of a 10 per cent. solution carbonate of soda, when added to 15 gr. of chloral in one drachm of water, would make the solution alkaline. This solution was intended and used for intra-venous injection, but it has since been used, although not extensively, in giving the drug by the stomach. It prevents irritating local effect, and seems to add to the rapidity and intensity of its action.

Dr. Sam'l E. Wills, of Earlsville, Md., finds that in some cases chloral does not act well, and believing that this is due to excessive acidity of stomach, gives 20 or 30 grains of bicarbonate of soda or potash, and sleep always follows.

As chloral hydrate is quite irritating to the buccal, pharyngeal and gastric mucous membrane, whether in a simple aqueous or a syrupy solution, it is best to eat a little something, say a cracker, before taking the dose. This has been spoken of in Dr. Squibb's letter. The reason may be seen and appreciated by anyone.

A very pleasant formula is given by F. F. Harvey, Assistant Surgeon, U. S. A. He gives it in mint water, or syr. tolut, with the addition of tinct. cardamon. This "covers the taste well, and leaves the stomach in a good condition to digest the food—an important matter in delirium tremens."

Dr. H. Fly Smith found that chloral, when given in camphor water, acted much more quickly and powerfully than when given in syrup.

Dr. Julius T. Hoffman, of Chicago, Ill., and a recent writer in the *New York Medical Record* (Nov. 20, 1880), say that the taste of chloral may be effectually disguised by giving it in syrup of gooseberry and adding one drop of chloroform to every grain of chloral.

BY THE RECTUM.—Chloral hydrate is peculiar in that it acts with about the same rapidity and intensity when given by the rectum as when given by the mouth. Indeed, some authorities claim that it acts more rapidly when given by this channel. It has been found of great advantage to give it in this way in two classes of cases:

1. Those where, owing to some spasmodic or convulsive

affection (tetanus puerperal convulsions), it is impossible or very troublesome to give it by the mouth, and

2. In cases where, from inflammatory or other affections of the stomach or throat, it is not advisable to give the drug by the mouth, owing to the possibility of causing a local irritant action, it may be exhibited either in the form of suppository or enema. The former is preferable in those cases where there is irritability of the rectum and a quantity of fluid can not be tolerated.

It is a matter oftentimes overlooked by physicians, that chloral hydrate is a ready solvent for fats, so much so, that solid fat becomes liquified by contact. For this reason, cocoa butter, the usual vehicle for suppositories, is inadmissible for making them with chloral, as in such case a soft, oily mass, altogether too fluid for anything but an ointment, results. If it is desired to use a solid extract with the chloral, the difficulty is still further increased, for the little water necessary to moisten the extract before "working" it, greatly increases the fluidity of the oleaginous mixture. A writer in the *Druggists' Circular and Gazette*, after a number of experiments as to the best excipient, found that equal parts of spermaceti and oleum theobromæ have advantage over any other. This proportion is suitable for a suppository containing ten or twelve grains of chloral. If more is used, the amount of spermaceti must be increased.

M. Catillon, in a communication to the Societe de Therapeutique, recommends the following formula: Chloral hydrate, 1 part; white wax, cocoa butter, *aa*, 2 parts, for plasters, suppositories or bougies.

Whidborne finds a suppository mass composed of one to two drachms of chloral hydrate, made up with hard soap and honey, very useful.

Paul, who uses suppositories of chloral hydrate only for their local action in cancer, etc., employed the following as a basis: cocoa butter, 30 grs.; spermaceti, 45 grs.; powdered charcoal, 45 grs.

ENEMATA.—It is by enema that chloral is most often given by the rectum. Given in pure water, it, after a few injections, and sometimes in the first instance, produces considerable irritation.

Dr. G. de G. Griffith finds it of great advantage to beat up the drug with one or two raw eggs, and to this add a little warm milk. He has used chloral and bromide of

potassium in this way in a number of instances, without producing any irritation, and with the best effect on the disease. Dujardin-Beaumetz has used the same base for exhibiting plain chloral with the best result. Leo Testa also speaks highly of it.

From the Report on Advances in Practice of Medicine,
To the Virginia Medical Society.

BY G. WM. SEMPLE, M. D., HAMPTON, VA.

To the President and Fellows of the Medical Society of Virginia:

Your reporter, in consequence of a troublesome affection of the eyes, has been unable to devote the necessary time and attention to make such a report as he desired to present; and he asks, in advance, your indulgence for an imperfect compliance with his duty in presenting only a few subjects for your consideration.

The first subject he will introduce is the *treatment by aspiration of obscure cases of hepatic abscess, distinguishable by certain head symptoms*, a treatment first proposed and practiced by Professor Hammond, which was so well and opportunely discussed in the admirable address before this Society at its last meeting, by the illustrious Dr. J. Marion Sims, and which may now be considered fully established as a great advance in practice. It is unnecessary for him to dwell upon the great benefits that must result from this stride in practice. Numbers of lives will be saved by it, and the amount of suffering of mind and body that will be relieved, is incalculable. By this practice, the patient, whose case will now be given in his own words, would have been relieved of two years of great and constant sufferings, and from the great danger attending the spontaneous cure, which fortunately occurred.

"On October 18, 1877, I received a severe injury to my left leg. Little fever resulted, and the extensive wound was healing kindly; but I was attacked on the eighth day after the accident by traumatic delirium, which continued more than a week. I am over sixty years old, have always been of temperate habits; until the last thirty years have suffered frequent attacks of malarial

fever, which have since been prevented by a single grain of quinine taken every morning during the malarial season; have suffered all my life from habitual constipation, which was never benefited by any treatment of my own or any that was advised by my professional brethren. When the accident occurred, I was otherwise in good health, and my younger friends generally took me to be ten years younger than I was. After the leg got well, I continued to be the subject of the same spectral appearances that I had seen in my delirium—sometimes pleasant and beautiful, sometimes so horrible that *obstupui, vox hesit, faucibus steterunt que comæ*, though I knew them to be unreal. I became almost sleepless, never sleeping more than three hours of the night, though always drowsy. I became melancholy and disposed to solitude, and had great sensitiveness of my condition of health. I lost my appetite, although nothing that I ate disagreed with me. With loss of appetite, there was constant loss of flesh and strength, until I weighed only 134 pounds—my usual weight being 165 pounds, and while I had been an unusually good walker, it was laborious and fatiguing to me to walk one or two hundred yards. I suffered from frequent vertigo, there were floating spots always before my eyes, and if I raised them high, I staggered in my gait. I became so despondent and desperate that I often detected myself revolving in my mind the easiest and most secret means of self-destruction, of which I always had had the greatest horror. This condition continued for two years. I have forgotten to mention, that in my want of appetite, there were occasional intervals of boulimia. I suffered no pain, except occasional slight temporary wandering neuralgic pains. I suspected the liver to be the seat of my trouble. Though there was no apparent enlargement of the organ, there were none of those pains that usually accompany diseases of it; there was no jaundice nor bilious discoloration of the conjunctivæ. I usually controlled boulimia; but on the 15th of October, 1879, after having suffered from extreme constipation, not having had an evacuation for five days, and having suffered from considerable pain at the end of the tenth rib, on the left side, for two or three days, I had a most voracious appetite; and becoming desperate, ate a most enormous dinner of fish, oysters, crabs, beefsteak, and of all vegetables of the season, and finished with ice cream. At

night, about 9 o'clock, returning home from a professional visit, I was attacked by violent abdominal pains, and an urgent call to evacuate the bowels. I was forced to seek the privy at a hotel, where I accomplished, after the most violent straining and pain, the evacuation of a long roll of hard fæces, followed by a copious liquid stool, which exhausted me very much. After a delay of one-quarter of an hour, I prepared to go home, but was forced to return for another copious operation, and this recurred there several times, and again after reaching home. I got to bed at 11, fell into a sound sleep, and slept until 9½ next morning, when I was waked up for breakfast, after having slept more in one night than in any three nights for two years. On rising, I was obliged to get to the chamber immediately, and had quite a large evacuation of yellow bile mixed with at least four ounces of pus. For the next eight days, I had a good appetite and digestion, but had four or five bilious evacuations daily, in which there was always some appearance of pus; and for ten days more these frequent bilious evacuations continued unmixed with pus. From the 15th, I continued to sleep well, and felt well in every respect, except the continuance, for a few days, of the pain at the end of the tenth rib. After the frequent evacuations ceased, by bowels became more regular than ever before in my life, and by the 1st of January, I had regained my health and strength, and, indeed, weighed more than ever before, and could 'double-quick' further than I could walk during my ill health, as I did, to see a patient suffering from profuse hemorrhage, and was in good condition to attend her on my arrival. All this suffering, and the danger of rupture of the abscess into the peritoneal cavity, instead of into the intestine, which had evidently occurred, would have been prevented, had I then known the safety of aspiration of the liver."

In introducing the subject of *malaria*, your attention is asked to a quotation from an able and valuable report made by my friend, Dr. J. D. Seeley, to the Medical Association of Alabama. "By the experiments of Messrs. Klebs and Tommasi Crudeli, it would seem that the following facts are established: That the malarial poison is the result of the spores of an alga, which they have named *bacillus malarix*; that these spores develop within the animal organism; that malarial fever can be pro-

duced at will by injecting beneath the skin liquids containing these spores; and lastly, . . . that a very moist subsoil, with a surface soil exposed to a high temperature and rapid evaporation, are the most congenial conditions for the rapid development of the plant, and the multiplication of its spores."

These spores of *bacillus malarie* may be produced at will by a proper cultivation of soil. Thus, the doctrine of a *contagium vivum* of malarial diseases is fully established, and the *contagium* definitely determined.

The salts of quinia and of the other alkaloids of cinchona more certainly than any other antiseptics, destroy the life of these sporules, when added to a filtrate containing them; they are also the most effective agents we possess for the treatment of malarial diseases, arresting more certainly than any other medicines all paroxysmal attacks. But do they do so in virtue of any antiseptic property by which the vitality of the spores in the blood of the patient is destroyed, or by some action on the nervous system of the patient, or by any other vital modification of his system? That the arrest can not be due to the antiseptic effect of the remedies, unless the quantity of the salts administered is sufficient to impregnate all the blood and other fluids of the system, to sufficient strength to destroy life in the sporules, would seem to be well settled by the reasoning of Dr. Richard H. Lemmon in his admirable paper, published in the October number, 1878, of the *Virginia Medical Monthly*. That the effect of quinia is rather due to some influence exerted on the nervous system, or some other modification of vital action, would seem probable from the fact that malarial paroxysms, after their arrest by these agents, frequently recur at stated periods, without fresh exposure to malarial influence. This would not be the case if the vitality of all the sporules of the *contagium vivum* had been destroyed by the action of an antiseptic.

The use of *hypodermic injections of some of the salts of quinia* constitutes an advance in the treatment of malarial fevers, which should be more generally adopted, because of certain circumstances that may forbid their use by the mouth or by the rectum; and for the further reason that they act so promptly as to arrest the paroxysms when the time for their recurrence is near at hand. True, the salts thus used heretofore have been liable to

the objection that they frequently produced large and painful abscesses; but Messrs. Andrews & Thompson, of Baltimore, prepare a solution of the *hydrobromate of quinine*, which is generally used and recommended by our professional brethren of that city, and which is not only not liable to that objection, but does not produce tinnitus or deafness, nor any of the phenomena of cinchonism. The remedy is high-priced, but in consequence of the small dose required, when thus administered, is not expensive. From 10 to 20 minims, containing from 2 to 4 grains of the salt, are equal in antiseptic effect, thus administered, to 10 or 20 grains of the sulphate of quinia, when taken by the mouth. The first use of this solution which came under the observation of your reporter, was in the case of the apothecary who ordered it for him. The supply came to hand when the apothecary was momentarily expecting an ague. Not knowing the dose, but finding the strength of the solution stated on the package, he introduced one drachm by two injections, at the point of insertion of the deltoid muscle of the left arm. The paroxysm was prevented; and though he had before for several months suffered from regular returns of the ague every twenty-first day, he has not since (nearly three months) had an attack. But a large abscess formed at the point of insertion, and several much larger ones succeeded. Your reporter was not deterred, however, from making further trial of the remedy, and after the use of ʒss of the solution in 10 minim doses, he has not failed in a single instance to arrest the paroxysm, nor have any of the patients suffered a recurrence of attacks, nor has cinchonism been once produced by it.

Your reporter does not recollect to whom the credit belongs of the first use of sulphate of morphia and sulphate of atropia by hypodermic injection on the access of the paroxysm to produce reaction from the cold congestive stage of malarial fever, to relieve the violence of the neuralgic pains which attend a paroxysm, to bring on the sweating stage more quickly, and to reduce the force and duration of the paroxysm. But the practice first advised by McIntosh, to give opium for these purposes, first suggested it to his mind; he has certainly long used these agents with constant success. He has also used it by injecting it over the epigastrium, to relieve the nausea and vomiting which sometimes attend in all stages of the par-

oxysms. In one case of most profound congestion in which, when called to the patient, the cold stage had already continued over five hours, and the patient seemed to be in danger of a quickly fatal result, suffering also from great nausea and constant retching, and from bilious vomiting; the vomiting was promptly arrested by the hypodermic injection over the epigastrium of sulphate of morphia, gr. $\frac{1}{3}$, and sulphate of atropia, gr. $\frac{1}{60}$; the reaction was brought on in half an hour, which was short, and quickly followed by a profuse sweat. It is true, that even when administered with atropia (which sometimes prevents it), the secondary remote effect of morphia is, with patients of a certain idiosyncrasy, to produce very distressing nausea and vomiting, attended by a sense of greater prostration than really exists; but your reporter has observed that the use of cold lemon syrup and dilute hydrobromic acid, as used to prevent cinchonism, also prevents these troublesome effects of morphia. This observation is original with him, though since he began this practice, it has been recommended in some publication to the author to which he can not refer, but to the credit of whom its introduction into practice is therefore due.

Seeing the similarity of this nausea, vomiting and prostration to that produced by apomorphia, the idea suggested itself that they may probably be produced by apomorphia, resulting in a change in the blood of a small portion of the morphia into apomorphia; and this view was afterward considerably strengthened by the fact that a patient to whom apomorphia had been administered to evacuate the stomach of a poisonous dose of carbolic acid, and who had frequently suffered nausea and vomiting from even the smallest doses of morphia, could not be convinced—so alike were the sensations produced by one and the other—that she had not taken morphia. In the few cases in which the hypodermic injection of morphia and atropia have failed to produce reaction from the cold stage of congestive malarial fever, or from collapse, your reporter has always observed, on inspection of the part at which the injection had been made, that the solution remained there unabsorbed, demonstrating that the absorbents were incapable of absorption—in fact, dead; and, therefore, that no medicine could be introduced into the system from any surface, or produce any vital action, and the patient was beyond all hope of recovery.

As the ill effects of the other salts of quinine are generally prevented by hydrobromic acid, and are not produced by the hydrobromate of quinia, and as the ill effect of the other salts of morphia are also generally prevented by hydrobromic acid, may it not be found that the administration of the hydrobromate of morphia would not be followed by the usual ill effects of its other salts?

Another great advance in the treatment of malarial fevers has been made, in the application of *pilocarpin* to their cure. Administered by hypodermic injection, on the access of the cold stage, or just before its access by deglutition, this remedy completely aborts the paroxysm and cures the disease, which rarely returns, unless on fresh exposure to its cause. But this and the other applications of this remedy, which acts so powerfully on all the emunctories, will not be pursued further, as a full report on the subject is expected from another source.

Dr. Walter Clarke Jackson, a physician of distinction of Montgomery, Alabama, in a paper read before the Medical Association of the State of Alabama, at its last meeting, regarding the symptoms of *hemorrhagic malarial fever* as caused by a venous congestion of the thoracic and abdominal organs, resulting from want of heart power, adopted the plan of treating it by the hypodermic injection of the sulphate of atropia, which has not, in his hands, failed of success in a single instance. The injection of from $\frac{1}{100}$ th to $\frac{1}{48}$ th of a grain is made every eight or twelve hours, according to the severity of the case. After the third or fourth injection, the hemorrhage from the kidneys ceases, the skin begins to clear up, the respiration improves, the temperature falls, the frequency of the pulse is lessened, and in from thirty-six to forty-eight hours the patient is relieved. Dr. Jackson, being a physician of experience, and his plan of treatment being founded on sound pathological, physiological and therapeutical views, your reporter expects a general clinical experience will confirm his, and that this will be established as another advance in practice, by which many lives will be saved from the destructive power of this very fatal disease.

Gelseminum has been much relied on in the treatment of malarial fevers; but your reporter can not commend it for that purpose. He has, however, used it most successfully in facial neuralgia, in inflammations of the eyes

(particularly of rheumatic form), in otitis media, in coryza and ozæna, and in neuralgic and muscular rheumatism. With the permission of the Society, he will detail one or two cases of each of these latter forms, in which it was successfully employed.

Mrs. ——— suffered from rheumatism of the right arm for more than six weeks, in a neighboring county under the treatment of an excellent physician, in the latter part of the winter of 1877. On the 27th of December, 1878, she was attacked, as she had been before, with violent pain in the right arm, which felt as if it were seated in the bone. It extended from the shoulder to the elbow. There was no swelling. The pain was always much increased at night. The attack was ushered in by a chill in the afternoon. The fever, of a remittent form, was highest at night, heat $104\frac{1}{2}$; acid sweat and urine. The patient had long been a sufferer from tinnitus and partial deafness, and was, therefore not treated with salicylic acid or quinine, but with colchicum and acetate of potash, and a hypodermic injection of morphia at night, necessary to relieve the intolerable pain. The urine on the fifth day had become alkaline, but neither the pain nor the fever abated. Twenty drops of fluid extract of gelseminum were ordered at 7 P. M., to be repeated every two hours until the physiological effects were felt. These the second dose produced, and she felt greatly relieved, and determined to repeat the dose contrary to my caution. It rendered her perfectly blind for eight hours, but she was relieved of all pain and the fever left. The following night, only considerable dilatation of the pupils remained, and the next morning she was well.—*Virginia Medical Monthly*.

Obstetrics as Practiced in Professor Braun's Wards in the Vienna Hospital.

I suppose there are few places that present the opportunities for studying obstetrics such as this, both on account of the abundance of material and the privileges granted students. In regard to material, there are annually about 9,000 deliveries in the hospital, divided between three wards. The women are from the lower class,

mostly single, and come to the hospital because they are not able to pay for attendance outside, and here they get good treatment free. The students are allowed to practice in the wards, under the supervision of the assistants, and they take charge of course the same as they would in private practice, and I dare say one can learn more here in five months than he could in as many years of practice.

I can best give an idea of the treatment here by illustrating a normal case, and then speak of special ones. As soon as a woman enters the lying-in room, her temperature is taken, and if normal, she is examined. If the examination gives a normal case, she is left until labor comes on. Should it be impossible to make a clear diagnosis by digital examination, the woman is anæsthetized, and the whole hand introduced if necessary. I have seen this only once, as it is generally easy to make a diagnosis with the finger, when combined with the external examinations, which consists in locating the head and breach by palpation; after this is done, you can generally either find the small parts, or trace out the back, which gives you the position of the child, and in cases of doubt, the location of the foetal heart will often aid you. They recognize only two positions here, the first and second. The first corresponds to our first and third, the second to our second and fourth.

Multiparæ are generally delivered on the back, but primiparæ, or in any case where there is danger of a rupture of the perineum, are delivered on the left side, as the perineum can be best supported in this position; this is done by pressing against it with the right hand, while the head is pressed back and forward with the left. If there is imminent danger of a rupture, incisions are made in the labia majora, this relieves the tension on the perineum. As soon as the head is expelled, they do not wait for the natural forces to expel the body, but deliver it immediately, by pulling on the head. The cord is not cut until all pulsation has ceased. The placenta is delivered by kneading and pressing on the uterus, and it generally succeeds in a few minutes. The vagina is now well washed out by means of a fountain syringe, with carbolized water, 2 per cent. solution. After which the linen is changed, and the woman transferred to another room, where she remains nine days; she is then sent home, and

requested to remain quiet for nine more days. The abdominal binder is not used.

The chief indications for forceps, are, (1) cases in which the os has been fully dilated for three hours, and the pains weak; (2) in which the foetal heart sounds are weak and slow; (3) in which mesonium is seen. Of course there might be exceptional cases, but these are the rules, and as soon as we have one of the above indications the forceps are applied. Forceps are rarely applied while the head stands high. Turning is made in shoulder or transverse positions, and in contracted pelves. After the turning is made, the child is not extracted, as a rule, but is left to be expelled by the natural forces.

Decapitation is made with a blunt hook, and in no case do they use a knife or cutting instrument. The hook does as well, and avoids all danger of wounding yourself or the woman. An arm of the child is drawn out as far as possible, the hook is now passed over the neck, guided by the thumb of the left hand, and the decapitation made by simply twisting the hook, which cuts as smoothly as a knife, and the operation is performed in quite a short time. The body is now extracted by drawing on the arm, and the head by introducing the hand and putting the fingers in the mouth of the child; by catching the head in this way, you can generally extract it without any trouble. Placenta prævia has but one treatment, and that is turn and deliver as soon as possible. In cases where the os is not dilated enough to turn, the bleeding is controlled by tamponing the vagina; but as soon as possible, the delivery is made. For eclampsia, very little is done in the way of treatment, except to control the attack, and for that morphine injections are used; in some cases this fails, when the woman is watched closely and chloroform is administered when she is threatened with an attack. If the os is closed, nothing is done to bring on labor, because it takes so long that the woman would either recover or die before you could deliver her. I have seen two cases that serve as examples. One was at full term, and as the os was already dilated a little, an attempt was made to accelerate the labor. This consisted in introducing into the vagina a caoutchouc bladder and dilating it with water. It is a very slow process, but claimed to be the safest. In this case, morphine failed to check the attack, and after the sixth, chloroform was administered;

from this time on, she rested quietly, and was delivered in about 36 hours after the first attack. The second case was easily controlled with morphine. She was in the seventh month, and nothing was done to bring on labor. She fully recovered from the attacks, but has not been delivered. Albumen was found in the urine in both cases, but no medicines were given.*

The rules in regard to disinfection are very stringent. No one is allowed to examine a woman until he has washed his hands in carbolized water. If a woman has a temperature above 30° (C.), she is placed in a separate room, and whoever examines her, is not allowed to do any more practice in three days. In consequence of these rules, there are but few cases of fever, and septiciæmia is extremely rare.—*Vienna Correspondence of Southern Practitioner.*

Pilocarpus Pinnatifolius (Jaborandi).

BY ROBERT M. KING, M. D.

It is not our intention to describe in language more fanciful than real, or to claim for the drug, the name of which heads this article, virtues and powers that have no basis in fact, observation or experience. Too many remedies have already come before the profession with high sounding names, their introducers claiming for them, in trumpet tones, wonderful and magical powers; commanding for a brief period popular applause and commendation, and then passing into merited oblivion. This, however, should not be charged to the remedy, but to the writer, who is often an enthusiast or novice in this field of literature. Human nature is the same the world over, and men now, as in times past, are too willing to discard the *true and tried friends* of a former day that their places may be occupied by *new comers* and their praises sung by some tyro of the healing art, who, from mercenary motives or a prurient desire for notoriety, becomes the ready *tool* of the *medicine vender*. The *materia medica* of to-day is full of worthless remedies and the

* At one time pilocarpin and other medicines were given to eliminate the albumen, but the results were not satisfactory, and now the only treatment consists in controlling the attacks.

debris of blasted hopes, expectations and promises created by such *pufferies*, until one's head and heart grows weary and sick at the recital of the various specifics and "cure alls" that would be far more appropriate in some book of fairy tales than in a rational and scientific compend of medicine. But the science and art of medicine are growing apace, and it behooves every member of the profession to keep step to the rapid advances being made, and to faithfully reveal every fact and observation that bring to light the therapeutical and physiological action of remedies.

Jaborandi, or its active principle, pilocarpin, although of comparatively recent date, does not come unheralded, as it has already received sufficient endorsement from recognized authority as to its efficacy as a remedial agent to lay claim to the honest inquirer's attention for a brief notice at this time. The shrub from which it is derived is a native of Brazil, and was first introduced in Paris by Dr. Continho, of Pernambuco. He claimed for it then, sialagogue and diaphoretic powers, and the few years that have elapsed since that time have amply confirmed his views. It has been described by Professors Baillen and Engler, and again investigated by E. M. Holmes. "A small quantity of a volatile oil was found by Byasson in the specimen sent by Dr. Continho, and an alkaloid for which he suggested the name jaborandin" (Am. Dis.). In May, of the same year, A. W. Gerrard "reported an alkaloid and named it pilocarpin, a name previously suggested by E. M. Holmes, in anticipation of an alkaloid from the plant" (Sup. Am. Dis., p. 123). It has a hot and pungent taste when swallowed, and in about ten minutes after its administration, "the face, eyes, ears and neck become deeply flushed," almost at the same time perspiration begins, together with an abundant flow of saliva. The nasal and bronchial mucous membrane secretes freely, the tears flow profusely, and occasionally the whole mucous surface, from the mouth to the anus, secretes with more than functional activity. This state of things may continue from two to four hours, as was verified by a case in my own practice recently. Given in a diminished dose, the salivation may become profuse, but perspiration fail to follow. "Langey shows that a profuse salivation of the submaxillary occurs, even after section of the chorda-tympani nerve, and the sympathetic sup-

plying the gland" (Ringer). The pulse increases in frequency and continues so for several hours after the administration of the remedy, and is due evidently to the increased action of the heart by reason of the low blood pressure, or diminution of the arterial tension.

"Robin contends that a transient rise of temperature precedes the fall, while Ringer and Riegel deny the occurrence of the observation" (Bartholow). My own experience is, that the temperature varies with the dose given, and that no perceivable change in temperature either preceding or following the administration is noticeable if the dose is not sufficiently large to produce its peculiar physiological effect. Bartholow states that the effect of the drug in children is much less for corresponding doses than in adults as respects the flushing, the salivation, the sweating and the temperature. An antagonism has been shown to exist between this drug and belladonna; the former contracts and arrests the action of the heart in diastole, while the latter can restore its normal state, and this fact leads Mr. Langey to conclude that "jaborandi slows and arrests the heart by stimulating the same nervous apparatus that atropia paralyzes, and so quickens the heart, namely, the intra-cranial inhibiting apparatus" (Ringer). The remedy is depressing, producing, at times, vertigo, great nausea and distress, and should be interdicted in all valvular cardiac troubles, or cautiously and carefully prescribed. It frequently produces slight narcosis and occasions, sometimes, hyperæsthesia of the scalp and vesical irritation.

Ringer adds his testimony in favor of its increasing the mammary secretion, and his statement and observation is corroborated by the experience of Dr. Bartholow. Its action on the glandular system is evidently due to its effect on the "end organs of the excito-secretory nerves," and its general action to its paralysis of the vaso-motor system; but M. Gubler "states that in addition a special irritating action upon the sudoriparous and salivary glands, and upon the renal glomeruli, stimulating their functional activity.

Like all new remedies, its therapeutical value and application have taken a wide range, being recommended in asthma, bronchitis, dropsy, uræmia, sub-acute rheumatism and various cutaneous diseases. Laycock has tried the remedy with good effect in polydipsia or diabetes in-

sipidus. My friend and colleague, Professor Wm. B. Hazard, M. D., has had very decided and beneficial results from its use in convulsions of children, as well as in a case of epilepsy of thirty years' standing. He states that a short time since he was summoned to see the last mentioned case, when he found his patient in profound coma, which was of four days' duration. Examined his urine, but found nothing abnormal in it save an unusual quantity of urates; patient had spit up a dark grumous sputa, offensive in smell, indicating gangrene of the lung. He resolved to test, immediately, the efficacy of jaborandi, and did so in whisky per rectum, and in a short time he had the satisfaction of seeing his patient restored to consciousness, and a further recurrence of the epileptic paroxysms was prevented for the period of sixteen days. Dr. Gasper Griswold, in the *New York Medical Record*, reports six cases of malarial intermittent fever treated by pilocarpin. The Doctor's testimony is that "Each patient being carefully watched at the time when his paroxysm was due, and two or three minutes after the chill had fairly begun, gr. 1-5 of the muriate of pilocarpin was administered hypodermically." The results were highly satisfactory in all but one case, the chill stopped within two or three minutes, aborting the paroxysms, terminating in the sweating without the hot stage occurring. In the remaining case, he adds, "the patient was a very large man, and the dose administered did not produce marked diaphoresis; the chill was not interrupted, although its severity was diminished and the pains in back and lungs disappeared. The hot stage occurred, but was shorter and not so intense, the patient recovering without having another chill."

My own experience with the remedy, while not very extensive, varied, or of long duration, has been, nevertheless, quite satisfactory. In an obstinate and rather protracted case of trigeminal neuralgia with daily recurrence of paroxysms between twelve and one-half and one o'clock P. M., of great severity for several hours, until relieved by morphinæ sulph. in gr. $\frac{1}{4}$ to $\frac{1}{2}$ doses. I became discouraged after repeated failures with quinine, morphia, gelseminum, and the whole list of anti-neuralgics, and resolved, at the suggestion of Prof. Hazard, to try the fluid extract of jaborandi. I began its administration in the dose of one-half drachm of Parke, Davis & Co.'s fluid ex-

tract twenty minutes before the expected return of the paroxysm. In ten minutes from the time of its administration its peculiar effects were noticeable and a profuse pytalism began, without diaphoresis, however, with the result of greatly modifying and diminishing the pain on that day. The following day I concluded to do away with drugs of every description, when at the usual hour as on previous days the paroxysm returned with all of its former severity. When I began giving the remedy I measured the temperature under the tongue preceding and following its administration, and discovered no perceivable change from normal. On the third day I again used the remedy, only at this time in a teaspoonful dose preceding the paroxysm as before, and prevented its recurrence entirely, causing great nausea and diaphoresis. On the fourth day the drug was given in the dose of the first day, $\frac{1}{2}$ drachm, with no return of paroxysm from that day to this, about ten days having elapsed. The temperature fell from 1 to 2° F. on the day that the teaspoonful dose was given, when free sweating occurred, but failed to do so when the dose was again diminished on the third day. The remedy proved amply sufficient in two drachms, given at three different times, to accomplish a cure, what I had been vainly endeavoring to do for days and days before with quinine, morphine, and a host of other remedies, aided by embrocations and hot fomentations. In reference to the dose, from one to two drachms are required when given by the mouth, but for hypodermatic medication, the pilocarpin muriate in distilled water, from gr. 1-8 to 1-6 is the better form. In cases where quinine is contraindicated by reason of a peculiar idiosyncrasy, I would have no hesitancy in recommending pilocarpin in the dose above mentioned. Thus another link in the chain of evidence establishing the remedial powers of this highly valuable drug has been added, and we trust to the future delight and joy of many who may thus be afflicted, as well as to the gratification of the patient and busy practitioner searching after panaceas for this troublesome malady.—
St. Louis Clin. Record.

MICROSCOPY.

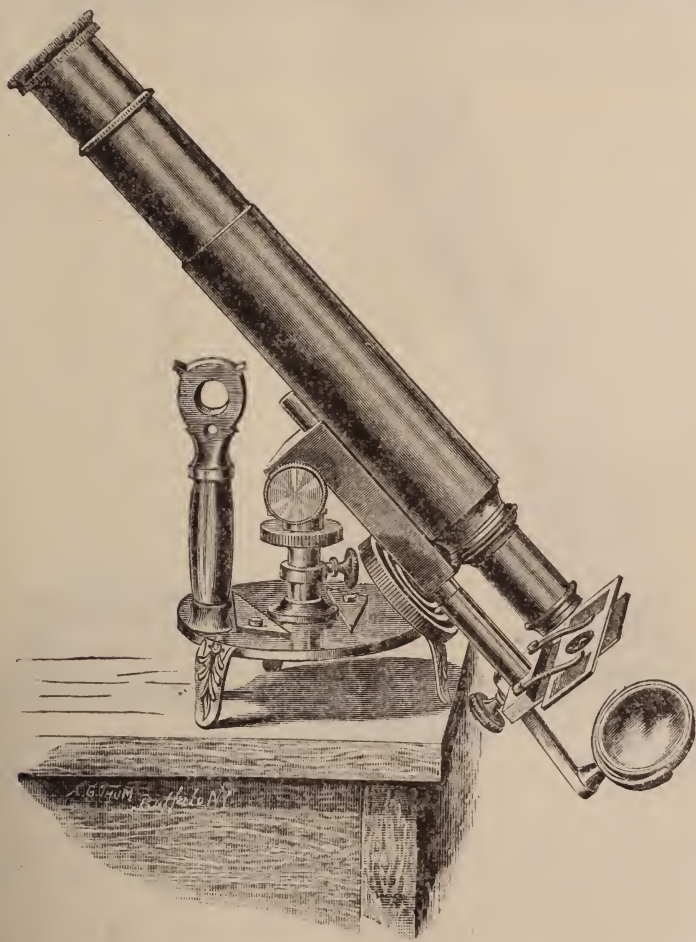
Griffith Club Microscope.

THE Griffith Club Microscope, which is illustrated by cuts in the present number of the *MEDICAL NEWS*, received its name from the Club of Microscopy, of Detroit, Mich., and is the invention of E. H. Griffith, A. M., of Fairport, N. Y. The inventor claims as original in application to the microscope nearly all of its principal features, and



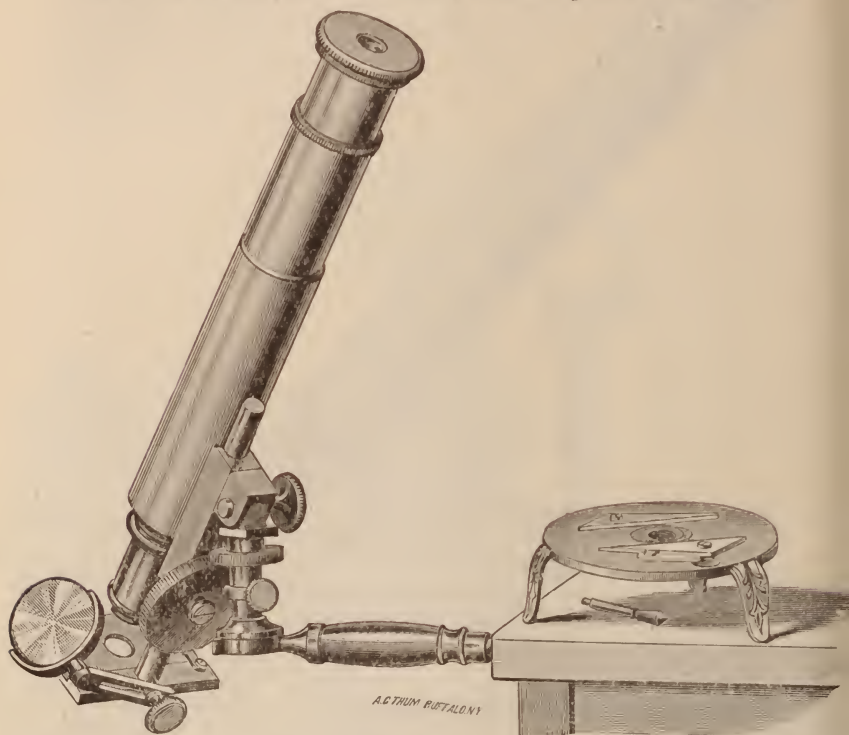
is the result of a long series of experiments by a practical microscopist to procure a first-class instrument for his own use.

When boxed for transportation, it requires a space only



about 6 inches long, $3\frac{1}{2}$ inches wide, and $2\frac{1}{2}$ inches deep. The stand is made by skillful workmen, and is of brass, heavily nickel-plated. The tube can be extended to the standard length of ten inches, or shortened to six, and by means of the coarse and the fine adjustments, the highest and the lowest powers may be used. The coarse adjust-

ment is made by sliding the grooved stage bar over a closely-fitting rod, which is attached to the tube; and the fine adjustment is secured by means of a wheel, which has a spiral groove cut in its inner surface, in which a point projecting from the stage support is made to run, and a steady movement is secured while adjusting the focus by means of a strong coiled spring. The stage



is of slim hammered brass, and the mirror is so arranged that the greatest obliquity of illumination for tests for opaque and transparent objects may be secured. When not in use, the mirror bar will allow the mirror to be pushed close to the stage, out of the way. The tube can be set at any angle, or perpendicular, or horizontal. The foot of the microscope can quickly be converted into a first-class turn-table, and used with the remainder of the stand as a support, or in connection with the screw clamp which is used to clamp the microscope to a table or other

support, and which is also used to attach the tubes in any position to a fence, tree or desk, or other support, when the base is omitted. A taper holder may be fastened to the mirror bar and a superior class microscope is the result.

Trichinosis.

It is not often we seek for home news in foreign journals, but we will mention that we see it stated in the *Lancet* that, according to a recent report to the "Sanitary Committee" of Massachusetts, it appears that of 2,701 pigs examined during five months, no less than 154, or nearly 6 per cent., contained trichinæ. The animals came from different and distant regions, but the majority were from the Western States. The same reports affirm that rats are affected with trichinosis at Boston to a much larger extent than in Germany. Of fifty-one rats caught in a Boston slaughter-house, says the *Lancet*, thirty presented trichinæ. On the other hand, twenty-eight fowls fed in the establishment were found to be healthy. Forty rats taken in another large slaughter-house all contained trichinæ; but of sixty found in different stables only six were thus affected.

While the information of the *Lancet* may be true, yet we do not believe that trichinæ prevail to any great extent in the pork of this country. Pork is a staple meat of which, probably, more is consumed than of all the other meats combined, and yet in the populous region about Cincinnati, we have not heard of a case of trichinosis for some years. The last cases we recollect of hearing were near Aurora, Ind., some seven or eight years ago. But the consumption of trichinous meat may not always be followed by the disease. Certainly such must often be the case, for notwithstanding that nearly six per cent. of the hogs killed in Boston are said to contain trichinæ, yet we have not heard of any cases of trichinosis occurring there.

In the article from which we have quoted, the *Lancet* states that an enormous consignment of lard, amounting to 120 tons, was lately received at Lyons from New York. Of fifty specimens examined immediately after arrival, three were found to be infested with trichinæ.

It would be interesting indeed to know to what extent

trichinæ really do infest pork, and whether or not they infest it when trichinosis is not prevailing. To ascertain this, we will suggest that physicians, who have microscopes, make frequent examinations of specimens of pork, and inform us of the results. To detect trichinæ does not require a microscope with a fine lens and high power. A good achromatic objective of 50 or 100 diameters will answer the purpose very readily. A section of the specimen of pork sufficiently thin for the transmission of light by the mirror should be made; or we have known some to reduce a very small piece to a pulp, and adding a drop or two of water or glycerine, or both, spread it out very thin over a glass slide, and then place under the lens, focussing, and examining carefully. We have employed the latter mode very satisfactorily, having no difficulty at all in finding the creature curled up in its cyst.

The Microscope in Medicine.

BY CHARLES H. STOWELL, M. D.

It is now nearly thirty years since it was shown that fragments of lung tissue could be detected by the microscope in the sputa of persons suffering from incipient or advanced phthisis; yet I fancy that this method, even at the present time, is not resorted to as frequently as the results obtainable, and the wide-spread disease, would warrant.

The active practitioner is either too busy to take the time necessary to complete the examination, or, as a result of years of experience, he is led to rely completely on his skill in auscultation and percussion. We have the very best authority, however, for stating that cases of incipient phthisis have been diagnosed by means of the microscope, weeks, months before the usual signs appeared by auscultation or percussion.

This method of examination is especially indicated when we fear, for various reasons, that even the slight cough and the scanty sputa of our patient may be but the forerunner of the dreaded disease. The presence of pulmonary elastic fibres in the sputa proves to us that the pulmonary tissue is breaking down, and if the amount actually thrown off be ever so small, the fact still remains

that serious trouble is at hand. It is not our purpose to argue the value of this method of diagnosis. The question needs no arguing. It is a settled fact that by examining the sputa of patients we may either make an early diagnosis of phthisis by this method alone, or confirm a previous diagnosis.

The reports of Clarke, Fenwick, Beale, Bennett, Richardson, and others, all testify to the great practical value of this means of diagnosis. The statistics they offer show of what positive value are the elastic fibres when found, and how their diagnosis rested many times on such an examination alone.

The method employed at this laboratory, of examining the sputa, is the one suggested by Dr. Fenwick, of London, many years ago. His method is to boil the sputa with an equal amount of a solution of caustic soda (twenty grains to the ounce), and as soon as the sputa are liquified, then three or four times their bulk of cold distilled water is added. The whole mixture is then poured into a conical vessel, when the elastic fibres will sink to the bottom, where they can be taken up with a pipette and placed on a slide.

We desire to call attention to the danger of mistaking some of the accidental ingredients of sputa which resemble more or less closely the true pulmonary elastic tissue. Dr. Richardson speaks particularly of some minute particles of tobacco leaf "which certainly bore a very strong resemblance" to fragments of the pulmonary air vesicles.

So, no wonder, then, that a very earnest student in microscopy forwarded to us a short time since a mounted specimen of "suspected lung tissue" in which could be seen the small bronchi dividing, etc., as supposed, but the specimen was evidently a shred of a leaf in which were to be seen its cells, spiral vessels, etc.—*Illustrated Medical Journal*.

SINCE we wrote the article upon *Trichinosis*, we have seen a statement in one of our daily papers, that some physician, unknown to him, left a piece of pork at the office of a microscopist of this city, which, upon examination, was found to be filled with trichinæ. As we have suggested, we hope to hear soon the results of

microscopical examinations as regards the existence of trichinæ in pork from all over the country. We will also suggest, in addition, the examinations of the bodies of rats when opportunity is offered; for that animal is said to be more liable to be infested than any other. We regret very much, indeed, that microscopes are not more common among physicians.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

EXTIRPATION OF THE LARYNX, PHARYNX, BASE OF THE TONGUE, TONSILS, AND VAULT OF THE PALATE.—Dr. Cav. Azzio Caselli, at a meeting of the Medico-Chirurgical Society, of Bologna, December 7, 1879, presented the following case: The patient was a girl of nineteen years, anæmic, delicate, who had not yet menstruated, suffering from an epithelioma of the larynx, pharynx, vault of the palate, and base of the tongue. She was obliged to close the nares with the fingers in eating and drinking; she breathed with difficulty, and was subject to fits of suffocation, which were so severe as to be dangerous. There was general wasting, from insufficient nourishment.

The operation was begun by doing tracheotomy with a galvano-cautery knife. An incision was made in the median line from the opening into the trachea up to the lower border of the body of the lower jaw, and carried to a sufficient depth to expose the thyroid cartilage. The thyroid gland was removed, and all the anterior surface of the thyroid and cricoid cartilages uncovered. The larynx was surrounded with the fingers, and all its connections with the hyoid bone were divided with the galvano-cautery wire. The thyroid cartilage was isolated from the surrounding tissues, detached from the cricoid cartilage, and severed from the trachea at the first inter-annular space. Before making the section, two ligatures were attached to the trachea, to prevent its retracting too far into the root of the neck. The position of the carotids was made out from time to time with the fingers, in order to keep them out of the way of the knife. The

pharynx was isolated and divided at its point of junction with the œsophagus, a ligature being passed through this also to prevent its retraction. At this point the patient ceased to breathe, and artificial respiration was begun. *It was suggested that the stoppage of respiration was only preparatory to efforts at vomiting produced by reflex irritation from the divided œsophagus; and this proved to be the case.* After the vomiting had ceased, a portion of the base of the tongue and of the epiglottis was removed with the galvano-cautery. Next the mouth was kept open by means of an American instrument, and through it all the soft palate, the upper portion of the pharynx as far as the level of the posterior nares, the constrictors of the fauces, the tonsils, and the last adhesions of the pharynx were incised; after which all the neoplasm was extracted through the wound in the neck. The operation occupied three hours and ten minutes. Less than two ounces of blood were lost. The patient was fed with wine, through an œsophageal tube, and being asked if she had suffered, answered by a negative shake of the head. She put out her tongue when desired to do so—a thing which was scarce hoped for, in spite of the care taken to preserve the motion of the organ. The tracheotomy canula was left in place. The wound was dressed antiseptically. Food was injected regularly through the tube. The œsophagus, held up in its place by strings passed over the ears, united well, as did the trachea also. The dressing was renewed daily. On the fifteenth day the patient left her bed. At the end of a month she was able to swallow solids and liquids without any return through the nose. By means of an apparatus constructed by M. Caffari, the patient, when presented, conversed intelligibly and continuously.—*Modified from the New York Medical Journal.*

ON THE PREVENTION OF LACERATION OF THE FEMALE PERINEUM.—Alex. Duke, M. K. Q. C. P. I., in the *Medical Press and Circular*, November 24 :

The best authorities are, I think, agreed that it is not advisable to support the perineum when that important structure is distended by the passage of the fetal head, and the reason is sometimes given that the support is so seldom properly applied that it is better left undone.

However, as it is a most deplorable accident to happen

to any female, not only on account of the additional danger to the patient from septic absorption, the additional anxiety and trouble it gives to both nurse and doctor, and the train of subsequent evils which it frequently sets up, I consider it a subject worth saying a few words about, if only to draw out the opinion of older and wiser heads as to the advisability of adopting some preventive treatment instead of as a rule interfering at the wrong time, with the calamitous results we so often witness.

The best preventive treatment of laceration which I have found (and which I dare not claim as original, as I presume it has been tried before, but which I see no mention of in the text-books of midwifery) is this: When I find the head fairly engaged in the pelvis, and advancing with each pain, I take my seat by the patient's bed, and having lubricated my left thumb or the two first fingers on my right hand, I introduce either into the vagina, and at the outset of a pain draw back the perineum firmly, but gently, toward the coccyx, relaxing the tension as the pain lessens till the next ensues, and so on till I can draw back the perineum with very slight effort. I thus tire out the muscular structures, and produce sufficient relaxation for the head to pass. In most cases so treated the perineum is in no danger, but when the pubic arch is narrow, I take the additional precaution to foment the parts, and use an inunction of lard, and also allow the head while passing through the valve to glide over my lubricating fingers, using them as a shoe horn, so to speak, while I direct the head forward by pressure with my left hand below the coccyx or a finger in the rectum.

It has always seemed anomalous to me that the perineum should be expected to dilate on such short notice, namely, the "process of extension," while (dilatation of) the os and cervix occupy such a considerable time, even with the additional help of nature's hydrostatic dilator, viz.: the bag of waters.

The drawing back of the perineum produces no additional pain, as it is done during a uterine contraction, and I feel sure if nurses were educated as to the proper way of dilating the perineum previous to its distension with the fetal head, we should see and hear less of lacerated perineum.

RELIEF OF TONIC SPASM OF THE EYELID.—Dr. F. C. Hotz, of Chicago, reports, in the *Archives of Ophthalmology*, September, 1880, the case of a woman, seventeen years old, who for five months had not been able to open her right eye. She had had various accidents to the eye, which do not seem to have much to do with the spasm, until she had an “erysipelas of the eyelids,” by which those of the right eye were made swollen and red. When this subsided she could not open her eye at all, in spite of various remedies tried by her physician. Dr. Hotz found a remarkable tetanic contraction of the supraorbital portion of the right orbicularis muscle. The eyebrow was drawn down so as to hide all the lid to the lashes. The skin was not red, or swollen, or tender, but hard, and the patient had a feeling of soreness in it. When the eyebrow was pulled up by the doctor, the patient could open her eye easily. There was no spasm of the lid part of the muscle. The use of electricity had no effect, nor had instillations of atropine, to correct a suspected spasm of accommodation. At a loss what to do, Hotz recalled a case of blepharo-spasm which Zehender had relieved with tincture of iodine. Upon following his example, by painting the iodine into the region of the right eyebrow, he got an almost miraculous result. In two minutes the spasm was gone, and the patient could open and shut her eye at will. The next day, however, the *lower* lid was inverted. The spastic entropion was at first relieved by traction upon the lid; but it recurred the same night, and was finally cured, as the spasm of the upper muscle had been, by penciling the tincture of iodine upon the skin of the lower lid.

CANCER OF THE RECTUM.—From an analysis of one hundred and forty cases, Dr. Charles B. Kelsey, in the *New York Medical Journal*, draws the following conclusions:

1. The fatal results which have thus far been recorded as following this operation nearly all occurred in cases where, from the extent of the disease, such a result was not improbable.

2. When the disease reaches above three inches, or involves neighboring parts to such an extent as to render its entire removal without injury to the peritoneum questionable, the operation is contra-indicated.

3. Although there have been a few cases of cure, such

a result is so rare as not to justify the exposure of the patient to the risk of immediate death which attends the attempt to remove extensive cancerous disease.

4. The operation is chiefly valuable as a palliative measure, and as such it is applicable to cases where the disease has not made extensive progress.

5. As a palliative measure in proper cases, it compares favorably with the results of the lumbar colotomy, both in prolonging life and in relieving pain.

6. The operation is not followed by an annoying incontinence of feces, except in a small proportion of cases.

7. The operation is not a substitute for lumbar colotomy in cases where the disease has reached more than three inches from the anus.

8. There is no proof that the operative interference shortens life by hastening the progress of the disease.

REMOVAL OF PLASTER OF-PARIS DRESSINGS.—Dr. Wackerhagen gives, in the *New York Medical Journal*, November, 1880, a description of a method for the removal of plaster-of-Paris dressings. He employs a strip of soft rubber, three-quarters of an inch wide and one-quarter of an inch thick, with a groove nearly one-quarter of an inch deep, for the purpose of guiding the shears while cutting the plaster. To the plain surface of the grooved rubber guide the non-adhesive side of a strip of adhesive plaster is fastened, by means of mucilage, to prevent the guide from becoming displaced while bandaging the limb. The fracture having been reduced, and retained in position by assistants, the adhesive surface of the rubber guide is placed along the median line of the limb, which is then covered by a dry, thin bandage, to prevent the plaster from filling the groove; over this the usual plaster-of-Paris bandage is applied. This dressing may be removed without discomfort to the patient, by cutting along the groove with curved shears made for that purpose.

DETECTION OF THE LOCATION OF STEEL AND IRON BODIES IN THE EYE.—Dr. Thomas R. Pooley, of New York, reports in the *Archives of Ophthalmology*, September, 1880, a series of experiments of great interest, which demonstrate that small fragments of steel or iron that have embedded themselves in the eye, and are undiscoverable by other means, may be magnetized by holding a bar or horse-

shoe magnet close to the sclerotic, after which they will attract to themselves a minute and delicately suspended magnet, in a way which will indicate their location. In the experiments a fine, magnetized needle, suspended by a thread, had its point attracted to a spot over the bodies searched for, the accuracy of the indication being shown when incisions were made. The depth at which the foreign body lay was approximately inferred from the intensity of the action of the suspended needle. An incidental result of the experiments was the evidence that foreign bodies in the eye very soon become enveloped in a dense exudation, which renders their removal with a magnet very difficult.

TREATMENT OF BURNS.—Dr. Nitsche, in the *Wiener Med. Presse*, October 3, 1880, reports marked success of the following treatment: Without puncturing the blisters, the wound is washed and disinfected with a two per cent. solution of carbolic acid, and then painted with a thick varnish, made of linseed oil and litharge, in which five per cent. of salicylic acid has been dissolved by heat. After one layer has dried, another is painted on, and after this is dry a layer of cotton wadding is applied. Usually no suppuration occurred, but after a time the whole dressing came away like dry skin. If suppuration showed itself by fever or pain, the spot was exposed. If its area was less than five centimeters in diameter, dry salicylic acid was dusted on. If the spot was larger, a trap was cut in the dressing, salicylic acid strewed on, and the batting replaced. The cicatrices after this treatment were smooth and white—not hypertrophic.

ELECTRICITY IN LEAD COLIC.—A case of lead colic treated with electricity; there was obstinate constipation. Large doses of ordinary purgatives had been given without effect; these were followed with a mixture of castor oil and croton oil, which did not produce the desired effect, but finally brought on vomiting. Enemata were prescribed, but these also to no purpose. A faradiac battery was then obtained; the negative pole, armed with an electrode consisting of an insulated copper wire, terminating in a copper ball, was introduced, as far as possible, into the rectum. The positive pole was then placed upon the abdomen, and a strong current was allowed to pass for eight or ten minutes. When the current was broken, the

colicky pains had ceased. In ten or fifteen minutes a copious evacuation of the bowels occurred, followed by amelioration of all the symptoms and by recovery.—*New York Medical Journal*.

TRACHEOTOMY BY THERMO-CAUTERY.—Dr. J. Boeckel, of Strassburg, reports, in the *Archives of Laryngology*, September 30, 1880, twenty-one cases where he used this method, with twelve recoveries. The causes of obstruction were croup and diphtheria. Hemorrhage occurred in only two cases, and in only one was grave. In most of the cases the trachea was divided with a bistoury. In almost all the thyroid body was divided bloodlessly, with the instrument in incandescence. In no case was there secondary hemorrhage. In two cases the trachea was divided with the thermo-cautery, without inconvenience at the time or afterward. His conclusion is that he will always have recourse to the thermo-cautery when circumstances permit it, having arrived at the conviction that it insures absolute hæmostasis, when handled with prudence.

GALVANIC BATHS FOR TREMBLING.—M. Paul places his patient in a galvanic bath, thus subjecting him to interrupted galvanic currents, for a half hour every other day. The results are something surprising.

"In mercurial trembling, success was invariable; alcoholic trembling was cured; in *sclerose en plaques*, there was almost invariably some amelioration, and the same was true of paralysis agitans; in Chorea there was one success and one failure; the trembling in a case of incomplete paraplegia was cured; trembling from spinal irritation was almost always cured; in locomotor ataxia the treatment failed entirely. He advises that this mode of treatment be submitted to careful scrutiny, and states that he himself will pursue his studies in this direction farther.—*Virginia Medical Monthly*, November, 1880.

ULCERATION OF THE CORNEA.—Dr. Ramsdell writes to the *Medical Herald*, November, 1880, an interesting account of a case of ulceration of the cornea, attended with intolerance of light, circumorbital pain, frontal headache, and a low grade of remittent fever. The patient was much reduced in strength, and was rapidly approaching nervous exhaustion. Decided doses of sulphate of qui-

nine were administered, and the following local application made to the eyes:

| | | | |
|----|-----------------------|---------|--------|
| R. | Atropiæ sulph., | gr. ss. | |
| | Aquæ rosæ, | F. | 3 iij. |
| | Quiniæ sulph., | gr. ij. | |
| | Acidi sulphuric dil., | q. s. | M. |
| | Ft. sol. | | |

Sig.—Drop into the eye every three hours.

The patient experienced almost immediate relief from the use of this collyrium. She was given five grains of cinchonia alkaloid, with half a grain of sulphate of morphia, to induce sleep, the first night, and never required it afterward. The collyrium was continued regularly for two weeks, and the patient's recovery was complete.

Da. Ramsdell considers that in the collyrium the quinine performed the chief work of the cure. The sulphate of quinine has often been used topically in the treatment of chronic trachoma.

ACUTE AFFECTION OF THE MASTOID.—Hotz thinks that the examination of the periosteum plays an important role in the proper management of acute affections of the mastoid. He reasons that when, in the course of an acute purulent *otitis media*, the mastoid region becomes implicated, as shown by pain, redness, swelling, and tenderness to the touch, and these symptoms are not speedily relieved by leeches and poultices, an exploratory incision should be made down to the bone. If marked symptoms of acute periostitis are found, our surgical interference should end with the incision; but if the periosteum is found of firm texture, of normal thickness, and strongly adherent to the bone, the incision should immediately be followed by perforation of the bone.—*New York Medical Journal*, October, 1880.

THE TREATMENT OF CHRONIC ECZEMA.—Avoid the use of soap, as this is irritating. Twice a day, bathe the part in an aqueous solution of borax, one ounce to the pint. Dry without friction, and freely apply the benzoated oxide of zinc ointment, then bandage the part firmly with old dry muslin, which has been previously wet with a saturated aqueous solution of borax. Over this apply a bandage of oiled silk, in such a manner as to exclude the air perfectly. Let the bowels be kept regular. In

the majority of cases eczema may be promptly cured, by the simple exclusion of the air. Eczema of the fingers will generally yield in a few days, if the air be excluded by the ordinary rubber cot.

TREATMENT OF ITCH AT THE ST. LOUIS HOSPITAL.—Prof. Hardy is represented as having employed for eighteen years, in the treatment of itch, an ointment of lard, one part; flowers of sulphur, one-sixth part; sub-carbonate of soda, one-twelfth part. Thorough and almost violent frictions of this ointment, continued for twenty or thirty minutes, especially at the natural bends and folds of the skin, always cure. The friction was repeated only once in four or five thousand cases, and all the patients were cured. After rubbing, the ointment should remain all night. On the following day an emollient bath may be taken. This may be repeated daily for a week.—*Medical News and Abstract*, June, 1880.

USE of nitro-glycerin in acute and chronic Bright's disease and in the vascular tension of the aged is highly recommended by A. W. Mayo Robson, F. R. C. S., in the *British Medical Journal*, November 20. He says: "During the last year I have tried the above remedy with great benefit in a number of cases of chronic Bright's disease. A one per cent. solution, in drop doses, every half hour, till it gave relief, or its physiological symptoms were produced, and then a drop or more thrice daily is the method of use recommended. It has been used in asthma, vertigo and various spasmodic affections with benefit. It acts, the theory is, by relief of blood tension."

BORACIC ACID.—This is being much used now as an antiseptic and anti-blennorrhagic. In profuse purulent conjunctivitis, this instillation of a saturated solution will often give brilliant results. It has also been employed in gonorrhœa, as well as in otitis. The solubility of boracic acid is as follows: In cold water nineteen grains to the ounce; in hot water eighty grains (only twenty-three grains remain in solution upon cooling); in hot glycerine three drachms can be dissolved, the whole remaining in solution upon cooling. For use in blennorrhœa of the conjunctiva the solution in water is strong enough.

RECTAL ALIMENTATION.—In a case of severe and persistent vomiting at Bellevue Hospital, the patient was nourished very satisfactorily with enemata, administered every three hours, composed as follows:

Milk, ℥ij.; half an egg; whisky, ℥ij., and McMunn's elixir of opium, gtt. x. The vomiting and pain were at once relieved. Two days previous to taking this note, defibrinated blood was substituted for the above mixture, and ℥ij., every three hours, were employed with satisfactory results.—*Medical Record*, July 31.

TRACHEOTOMY.—In the *St. Louis Medical and Surgical Journal*, August 20, 1880, Dr. G. W. Norman reports a case of tracheotomy for the removal of a cockle-burr from the windpipe. The foreign body was not expelled as soon as the operation was complete, nor until the sixth day. The history of the case looks as if the burr had been at first, or soon after the operation, impacted *above* the artificial opening, and that a search for it there might have saved the patient some trouble and the operator some embarrassment.

JABORANDI IN MUMPS.—Dr. Testa states, in *Il Morgagni*, that he has employed this remedy in the form of infusion in five cases, and draws from his practice the following conclusions:

1st. Jaborandi is an efficient remedy in mumps. 2d. The efficacy is explained by its hydragogue, and especially its sialagogue properties. 3d. Administered early it will prevent the development of the affection. 4th. It may prevent the metastases which are not infrequent.—*Med. and Surg. Reporter*

ACCIDENT IN INFLATION OF THE TYMPANUM.—Voltolini reports, in the *Monatsschrift für Ohrenheilkunde*, May, 1880, a case where, after dilating the Eustachian tube with olive-headed bougies, the use of the inflating bag was followed by extravasation of air into the submucous tissue of the throat. On another occasion, after using a bougie, inflation caused emphysema in the uvula, which was filled with air like a white bladder. The record is that the bougies were passed with difficulty.

POISONING BY CHLORATE OF POTASH.—The *Marseilles Medical* relates a case of poisoning by chlorate of potash. An elderly man took, in mistake for Epsom salts, thirty-five grams of chlorate of potash. Death, which followed in seven hours after the ingestion of the salt, was preceded by the following symptoms: Vomiting, colic and diarrhea, general weakness and rigidity of the limbs. After death the skin of the dorsal and lumbar regions presented a slate colored appearance.

DANGER OF PROLONGED EMPLOYMENT OF ERGOTIN.—At a recent meeting of the *Academie des Sciences* (*Bull. Gen. de Therap.*, 1880, No. 8), M. Boissarie read an article on the inconveniences and dangers of ergotin. When given in continuous doses, for a considerable period, even when these are small, ergotin accumulates in the economy, and may suddenly give rise to ergotism of a severe type. He gave also the history of a case of spontaneous gangrene of the lung from ergotism.—*Phila. Med. Times*.

CREASOTE AND ALCOHOL IN INFANTILE DIARRHŒA.—Dr. Demme, of Berne, in treating diarrhœa in artificially-fed infants, prescribes, in addition to breast milk, the following formula (*Jour. de Med. et de Chir. Pratiques*): Cognac, 2 to 5 grammes; creasote, O. 1 centigramme; pine tar, 1 to 5 grammes; distilled water, 50 grammes, every twenty-four hours between the sucklings. The object of this potion is to stimulate nutrition and check the formation of micrococci.

EUONYMIN AND IRIDIN.—Dr. Rutherford, in a report to the British Medical Association, on the chologogue action of drugs, published in the *Practitioner*, November, 1879, recommends these drugs in two and four grain doses, as, increasing the biliary secretion. His experiments covered a number of other substances; but he gives the preference to these. They do not act as cathartics, and should be given at night and followed by an aperient in the morning.

THE SIMPLICITY OF CHEMISTRY—NUMBER OF CHEMICAL COMPOUNDS POSSIBLE.—The eminent chemist, Bertholet, after making a calculation of the number of compounds derivable from certain alcohols, says: "If you give each compound a name, and then print one hundred lines on a

page, and make volumes of one thousand pages, and place one million volumes in a library, you will want fourteen thousand libraries to complete your catalogue."

HEMORRHOIDS TREATED WITH CAPSICUM.—In cases of hemorrhoidal congestion, Vidal regards Capsicum Annum as the best remedy. He prescribes four or five pills daily, each containing twenty centigrams, half at breakfast time and half at supper time. Under this influence the congestion and all the painful symptoms which accompany it disappear rapidly.—*Journal de Medicine*.

DISGUIISING THE TASTE OF EPSOM SALTS.—According to the *Gaz. des Hop*, June 12, 1880, the purgatif Yvon consists of sulphate of magnesia, twenty grams, water, forty grams, and essence of mint two or three drops. The essence of mint completely masks the disagreeable taste of the sulphate, providing that the quantity of the vehicle is inconsiderable.—*Med. and Surg. Reporter*.

NEW METHOD OF TREATMENT IN PROLAPSUS ANI.—Prof. Kehrér folds together a portion of the sphincter, and, after excision of its mucous covering, secures the folds by means of a firm suture. Thus a portion of the ring is eliminated, and the caliber narrowed correspondingly. In two cases subjected to this operation a speedy cure took place.

REMEDY FOR CORNS.—Mr. Gezow, an apothecary of Russia, recommends the following, in the *Pharmaceutische Zeitung*, as a "sure" remedy for corns, stating that it proves effective within a short time, and without causing any pain: Salicylic acid, 30 parts; extract of cannabis indica, 5 parts; collodion, 240 parts. To be applied by means of a camel-hair pencil.—*Med. and Surg. Reporter*.

FORMULA FOR SORE NIPPLES.—Dr. Howell recommends the following in the *Canada Medical Record*:

R Tannin, ʒj.
Sub-nit bismuth, ʒij.
Vaseline, ʒj.

M. Sig. To be applied constantly when the child is not nursing.

CHINESE VARNISH.—This is prepared by mixing three parts of freshly-beaten defibrinated blood with four parts of slaked lime and a little alum. The thin liquid mass may be used at once. Pasteboard, coated with it, is said to become as hard as wood. Straw baskets may be rendered by it water and oil tight.—*Polyt. Notizbl.*

A NEW REMEDY FOR CUTANEOUS AFFECTIONS.—Bauchee, the seed of *Posralia Corylfolia*, has been found by the native East India physician to be a most successful remedy in scaly eruptions of the skin and in leuco-derma. Dr. Lisbod, of Bombay, has used it with advantage in three cases of leprosy.

BOOK NOTICES.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE
Designed for the Use of Practitioners and Students
of Medicine. By Austin Flint, M. D., Professor of
the Principles and Practice of Medicine and of Clinical
Medicine in the Bellevue Hospital Medical College, etc. Fifth Edition. Revised and largely re-written. 8vo. Pp. 1,150. Half Russia binding. Price, \$7.00. Philadelphia: Henry C. Lea's Sons. Cincinnati: R. Clarke & Co.

This most popular work on the practice of medicine has reached another edition—the fifth. Probably no other work on medicine in the English language, of the same department, has met with greater success. From the publication of the first edition it obtained a high position; and, although a number of new works have since been published, it has continued to maintain its rank and gain in favor.

The author, Prof. Austin Flint, Sr., an American physician, having been a practitioner and teacher of medicine for many years, and having bestowed great attention upon the diseases of this country, studying the modifying influences of localities, particularly as regards fevers, has especial qualifications for writing a work for medical students attending American colleges, and for physicians practicing in this country. Of course we do not wish to undervalue the works of foreign authors, for there are many by them on practice of distinguished merit which

should be attentively studied, yet an American practitioner should consider it incumbent upon himself to study the works of those who have studied the diseases with which he will meet, and who have acquainted themselves with the modifying influences of the various morbid causes existing in different portions of the country.

In preparing the fifth edition of this treatise, the author has been thoroughly mindful of the progress of medicine since the publication of the fourth edition in 1873. It embraces in its scope general pathology, as well as practical medicine, and in each of these departments our knowledge has been in no inconsiderable degree advanced by zealous workers in different countries. The aim has been to bring the work, in all respects, up to the level of the present state of advancement in both the principles and the practice of medicine. Time and effort have not been spared to this end.

In its present revised and improved form it will be more acceptable than ever, and will continue to be regarded as the leading text-book of practice for students and physicians.

MEDICAL DIAGNOSIS, WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, Professor in Jefferson Medical College, etc. Illustrated with Engravings on Wood. Fifth Edition. Revised. 8vo. Pp. 924. Price, \$6.00. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co.

Every medical student and young physician should possess a work of this kind, and study it by day and by night, until he is entirely familiar with its contents. However great one's knowledge may be of anatomy, physiology, pathology, materia medica, therapeutics, chemistry, etc., yet it will avail him nothing as a practitioner unless he has the practical information contained in such a volume as the one before us. Dr. Da Costa's book teaches how to examine a patient in order to learn what is the matter with him. How can a physician cure unless he can determine the disease of which a patient is ailing? Diagnosis, therefore, is essential to putting to practical use whatever knowledge we may have of disease and its remedies; and unless we can make it out in any case we can not render assistance.

The difference of skill, in many instances, in physicians, rests upon the difference in qualifications in determining the diagnosis when called upon to treat disease. It is often an easy matter to treat a case when the ailment has been definitely made out.

We do not think there is a better work published on describing the modes of examining a patient for the purpose of determining the disease. It is complete in every particular. While not prolix, yet descriptions are sufficiently in detail, and are plain and easily understood. General symptoms are first described and their importance set forth under various circumstances. Commencing with the brain and spinal cord, the mode of determining the diseases of all the organs of the body is explained. The student is plainly taught to discriminate the pathognomonic signs from those that are but accidental, or are not of a peculiar character.

We regard it as a most valuable work.

CUTANEOUS AND VENEREAL MEMORANDA. By Henry G. Piffard, A. M., M. D., Professor in the University of the City of New York, and George Henry Fox, A. M., M. D., Surgeon of the New York Dispensary, etc. Second Edition. 18mo. Pp. 303. New York: Wm. Wood & Co.

This little work is *multum in parvo*. It is one of the most complete little works with which we have ever met. Although so small that it can be carried easily in the pocket, yet it is quite a complete treatise on diseases of the skin and venereal affections. It will be found to contain a full description of the characteristic symptoms of the different cutaneous diseases, so as easily to lead to their diagnosis, and quite a full account of venereal affections and their treatment.

OPHTHALMIC AND OTIC MEMORANDA. By D. B. St. John Roosa, M. D., Prof. of Ophthalmology in the University of the City of New York, etc., and Edward T. Ely, M. D., Assistant to Chair of Ophthalmology, University of the City of New York, etc. Revised Edition. 18mo. Pp. 298. New York: Wm. Wood & Co.

This, like the little work we have noticed upon "Cutaneous and Venereal Memoranda," is *multum in parvo*.

All the characteristic symptoms of the various diseases of the eye and ear are stated, so that from the descriptions here given they can be easily recognized. To refresh the mind, a little book like this one will save a great deal of time and labor in looking for information. On examining it, one is greatly surprised to find into how small a compass the actually necessary may be crowded by condensing language, weeding out unnecessary verbiage, and limiting discussion to what is strictly essential.

REPORTS OF THE ST. LOUIS MEDICAL SOCIETY ON YELLOW FEVER, Consisting of the Reports of the Committee Appointed to Inquire into the Relations of the Epidemic to the City of St. Louis, and a Report on the Meteorological Conditions and Etiology of Yellow Fever, and of Certain Other Diseases Associated with a High Temperature, and on the Treatment of Yellow Fever. By W. Hutson Ford, A. M., formerly Professor in the New Orleans School of Medicine. Revised by the Committee on Publication, Thos. Kennard, M. D., Chairman; Walter Coles, M. D., John Bryson, M. D. 8vo. Pp. 320. St. Louis: Geo. O. Rumbold.

The quite extensive title-page of this work gives a very good outline as to its character. It is a work that will be found interesting to all interested in the terrible epidemic disease which frequently swept over the southern portion of our country. It is known how nearly, recently, it came to destroying several cities of the South.

It is pleasant to know that the causes of yellow fever are becoming better known, and with the active measures employed to get rid of them, the disease hereafter will not prevail with the destructiveness that it has in the past.

YELLOW FEVER: ITS SHIP ORIGIN AND PREVENTION. By Robert B. S. Hargis, M. D., Pensacola, Florida. 8vo. Pp. 76. Philadelphia: D. G. Brinton.

The increase of literature in regard to yellow fever shows that the interest in it has increased very much. The little book before us is for the purpose of proving that the affection has its origin on shipboard, and not on land. A case having originated on board of a vessel, in which the conditions exist for its formation, when placed

upon land, proceeds to multiply the peculiar poison, and spread it everywhere.

After the introduction the following subjects are discussed: "The Ship Origin of Yellow Fever," "Practical Hints Relating to Yellow Fever," "The Most Recent Utterances on Acclimatization and Endemicity," "The Origin of the Poison of Yellow Fever," "Letter by Prof. John Gamgee to the Author," "Letter by Prof. Gamgee to Rear-Admiral Daniel Ammen on the Inter-Oceanic Canal and Yellow Fever Zone," "Index."

The work will be found interesting

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

THE PSYCHOLOGICAL ASPECT OF ALCOHOLISM.—The effects of alcohol upon the human system are, at present, attracting a wonderful amount of attention. Although in the last thirty or forty years a strong temperance sentiment has sprung up in the community, which did not exist previously (for every man, woman and child, from all ac-

counts, used to drink), and is increasing, yet it seems that intemperance is more prevalent than ever, and is becoming more and more a vice that is injurious not only to the subject, but to the community. In fact, if any cause shall ever bring about the extinction of the present race that is now inhabiting the earth, it seems to us it will be the vice of intemperance. It is now acknowledged by scientists that when a family, however large, has become degenerate, extinction of the family, after a generation or so, follows. It has been observed a great many times that vices, which are undoubtedly hereditary, are frequently transmitted in a form different from the first. Drunkenness, for instance, in the parent may produce in the offspring epilepsy or insanity; a syphilitic taint may result in scrofula. Usually by the time the third or fourth generation is reached, after vice has begun its work, along with the general breaking down or deterioration of other functions, there is destruction of the procreative functions, so that the family comes to an end—not being regarded, as it were, by nature longer fit to survive. When we view the alarming increase of excessive alcoholic indulgence, knowing its baneful effects upon the brain and nervous structure generally, undermining both the physical and mental constitution, predisposing to disease of every kind; and considering the fact that physical health is not regarded in canvassing the qualifications of one with whom it is proposed to enter into a marriage contract, it does not seem beyond all probability that the taint produced by intemperance might at some future time become so prevalent, and the decay which attends upon it become so wide-spread, that the extinction of the present race should follow. Many remains of great cities, of which history gives no account, in Europe, Asia and America, make it certain that a people inhabited the earth, previous to historic times, in regard to whom we have no knowledge. They formed undoubtedly great and powerful nations; but either some great convulsion of nature utterly obliterated them, leaving no vestiges of them except here and there a footprint, or they became extinct in consequence of their vices, and the decay of time reduced their immense works into dust, except here and there a trace, by the time the present races were brought into existence. There is but little doubt that, if the hordes of northern vandals had not

rushed down upon them, overcoming them, and afterward mixing with them, the people of ancient Rome would have become extinct through their vices and general corruption. Yet, in those days, the fiery beverages of brandy, whisky, rum and gin were unknown, and although drunkenness was not uncommon, the constitutions of individuals were but little injured by alcoholic poisoning. Now its poisonous effects are witnessed among the commonest of abnormal conditions, the taint of it existing in thousands by inheritance who were never intemperate themselves. And to this modern vice we have syphilis added, which we have reason to believe originated a long time subsequent to the downfall of the Roman empire. It may be very properly classed as a coadjutor or attendant of drunkenness. Although a destructive poison by itself, yet it goes hand in hand with the other, and often would not exist if there had not been a previous breaking down of the moral powers by the poison of drink.

In all the range of poisons that affect the system there are none which are so destructive of the mind and body as that of alcohol. Affecting directly the nervous system—the brain, spinal cord and nerves—its influence is thus what might be termed double. Scientifically, the mind may be regarded as a force resulting from certain conditions which are fulfilled in the great nervous center, and, therefore, whatsoever deranges this latter produces abnormal action of the mental phenomena. Intellectuality will be disordered, the emotions deranged, and volitional power changed or modified. But as from the brain and other nervous centers every organ derives its functional activity, consequently whatsoever acts upon it must necessarily modify all the organic functions of the body—of the body considered apart from the mind. Under such circumstances it will be seen that a poison like alcohol must be of a most disastrous character, affecting as it does not only the physical, but the mental constitution. A single dose of arsenic or strychnia may kill, so, also, oftentimes a single dose of alcohol will, but if it should not it is the worse for the victim, if in case he afterward becomes the subject of chronic poisoning by it.

Arsenic and some other poisons act by the irritation and inflammation they beget in certain organs. Alcohol is not only an irritant in many instances, but it also acts

mechanically and chemically. It coagulates albumen, and hardens animal tissues. In the living being the vitality of the parts resists its action, but kept long in contact with them, it overcomes more or less this resistance. We find it, therefore, hardening or consolidating, during life, the tissues of the brain, liver, etc. For this result the excessive indulgence in liquor is not necessary, but rather the constant use of them as beverages. The change which is thus brought about in the structure of the brain exhibits itself frequently by insanity, or may be intellectual impairment short of insanity. In very many instances there is general demoralization as the result of cerebral changes, which changes may afford evidence of their existence in no other way. Sometimes there will be but impairment of the moral tone—the individual evidently losing the sensitiveness as regards vices, or any acts that are not perfectly correct that were formerly peculiar to him. The mind proceeding, as we have intimated, from conditions that are fulfilled in the brain, the phenomena belonging to it in its departments of the intellect, the feelings and the will must necessarily be modified as the structure of the brain is changed.

But we have written to a far greater length than we had purposed. We had designed in the few minutes of leisure we had to very briefly mention, in a desultory manner, a few facts in regard to the psychological aspects of alcoholism, but we find we have consumed all our space before we have hardly finished our preface. We must wait until another time before we can complete our purpose. Before closing, however, we will mention that Dr. Ira Russell, in the *Alienist and Neurologist*, of St. Louis, in an article on the subject upon which we commenced to write, says, after enumerating the phenomena which are frequently exhibited in cases of drunkenness, "From this enumeration of the mental phenomena expressive of inebriety in its various forms we see what a great variety of psychical symptoms alcohol will produce that are not due to any structural lesions of the brain. [The phenomena meant are those exhibited when a person is in a condition of drunkenness.—ED.] The most prominent effect of alcohol upon the mind is a paralysis of the will and higher moral and intellectual faculties, and stimulation of the lower and vicious propensities; and the symptoms of nearly, if not quite, all of the va-

rious forms of insanity, at least such as are not peculiar to the female sex alone, may be produced by it."

The overwhelming of the higher moral feelings and the development in all their force of the lower animal appetites—both having their origin in the brain—is a remarkable quality of alcohol. Now and then the reverse seems to happen, but it is seldom.

ACCURACY OF CLINICAL THERMOMETERS.—A very great many of the clinical thermometers in use are more or less incorrect. Even when correct when first made, the changes that take place in the glass tubes through the effects of time make them incorrect. It is desirable, under the circumstances, that physicians have their thermometers tested, and, if there be any error in their registerings, that they be noted. This can only be done when there are facilities for the purpose. We have recently received a circular from the Observatory of Yale College in which it is proposed to *test* all thermometers sent them and note their errors. We quote as follows from the circular:

"Following the example of the Royal Society's Observatory at Kew, at which during the past year upward of five thousand thermometers were examined, this observatory has established a department to which any physician or other person may send thermometers by mail or express, and upon the payment of a small fee receive certificates of their exact errors. The facilities are such that there is no good reason why physicians should not buy their new thermometers furnished with the Yale Certificate by the dealers; in those cases where no certificate is furnished the uncertainty may amount to two degrees. It should be remembered that thermometers which the physician has had in his possession for many months are certain to have the requisite seasoning, and, therefore, an old thermometer with a recent certificate is more valuable than a new one, or one about whose age there is doubt.

"The Observatory has been called upon within three months to certify about seven hundred thermometers from various parts of our country; the results of this work have demonstrated the gross inaccuracy of the cheaper clinical thermometers as commonly sold and seem to render expedient the publication of this card

calling the attention of physicians to these errors and the great difficulty of detecting them except with the appliances of an observatory devoted to this work."

LEONARD WALDO,

Astronomer in Charge.

NEW HAVEN, Conn., *February 1, 1881.*

NEW MEDICAL SOCIETY.—The first Medical Society of the Black Hills has been formed in the city of Deadwood, Dakota, with Dr. J. J. Houghton, graduate University of New York, President; B. B. Kelly, Rush Medical College, Chicago, Ill., Secretary; Jefferson C. O'Neal, Cincinnati College of Medicine and Surgery, Corresponding Secretary; O. B. Thompson, Bellevue Medical Hospital, Vice-President; D. K. Dickinson, St. Louis Medical College, St. Louis, Mo., J. A. J. Martin, Indiana Medical College, Indiana, Henry Hunter, University of Pennsylvania, Philadelphia, Pa., H. Williams, Ann Arbor, Mich., —. Gonsolly, Ann Arbor, Mich., Wm. Dyer, Ann Arbor, Mich. We hope this far-off Medical Society will be abundantly successful. Our information is obtained from Dr. J. C. O'Neill.

JOHN HUNTER.—The career of John Hunter was not begun in a way that gave promise of the greatness to which he was to attain. As a boy he was wayward and impatient of restraint, fond of amusement, and prone to idleness and disobedience, though there is no evidence that he was given to intemperance or dissipation. After some unprofitable ventures he was taken in hand by his brother, Dr. William Hunter, who was practicing and teaching anatomy in London, and started on the course in which he afterward displayed so much industry and ability. His personal manners were not admirable, and his professional work he regarded solely as a means of getting a living, while his love for natural history and scientific study of physiology knew no bounds. It is curious to learn that to him is due the credit of first putting dentistry on a scientific basis. His work in the field of venereal diseases is well known, and, notwithstanding the advances made since his time, must always be regarded as a great gain to medical science.

In spite of his profound knowledge of anatomy, Hunter never ranked high as an operator. "He was a lover of principles and a hater of knives." His application of

the ligature on the cardiac side, for the cure of aneurism, was the first scientific operation of this sort for the cure of non-traumatic aneurism.

Beginning life unfavorably, he, by hard work and steady purpose, acquired wealth and reputation long before his death, and has left a name that ranks with the greatest names that the world delights to know.

CHEMICAL EXAMINATION OF DRINKING WATER.—We quote the following from the *Bulletin* of the National Board of Health:

A careful study of the chief methods in use for the chemical examination of potable water, so far as organic matter is concerned, has been undertaken by order of the National Board of Health. It is particularly requested of the correspondents of the Board, of medical men throughout the country, and of others interested in sanitary matters, that any well-marked case of disease which may seem, on medical grounds, fairly attributable to organic impurities in drinking water, be promptly reported to Dr. J. W. Mallet, University of Virginia Post-office, Albemarle County, Virginia, with a few lines stating clearly the medical nature of the case, and the character of the evidence on which the water in question is suspected of having actually caused disease in persons who have used it.

It is further desired that a sample of each such water be forwarded for examination, but not until notice has been received from Dr. Mallet that the analysts are ready to proceed with it, since it is important that no useless delay should occur between the shipping of the sample and its investigation in the laboratory. In notifying any one who may be able to furnish specimens of suspected waters that may be forwarded, clear instructions will be sent as to the quantity of water required, and the mode of collecting, packing and shipping it.

It is particularly desired that no case be presented on doubtful or vague evidence, since one important object of the inquiry demands that all such be rejected, and only those cases examined which involve the strongest grounds for believing that mischief has really been caused by organically foul drinking water.

The cost of packages and transportation for samples will be borne by the Board of Health.

THE CINCINNATI MEDICAL NEWS.

VOL. XIV. No. 159.
Old Series.

MARCH, 1881.

VOL. X. No. 3.
New Series.

ORIGINAL CONTRIBUTIONS.

List of Food Stuffs Examined.

BY EPHRAIM CUTTER, M. D., NEW YORK.
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NOTE.—Quantity taken of each specimen was enough to make a thin circular film, $\frac{3}{4}$ inch in diameter, thoroughly moistened with water. Power, 200 diam. For a *standard*, the lost nation wheat meal was taken. This wheat has a very large and well-developed grain of great beauty.

Prof. Butterfield attested the genuineness of the preparation, being simply the wheat ground up without bolting. There were found starch-alensome, starch bundles, some of them perfectly preserved, having the beard and about 300 gluten cells. Specimen somewhat heated in milling, as shown by imperfect polarization. Abundant connective tissue. It follows, then, that a flour to be perfect should present 300 gluten cells in the above amount.

Examination, 1.—“Fine granulated wheat flour.” Claim, “free from outer tegument.” Report, 1. Polarizes light well. 2. Hairs from beard. 3. Several cotton fibers. 4. Starch bundles all sizes and shapes. 5. Starch free. 6. Organic substance looking as if cooked by boiling and then dried. 7. More of same, yellowish, starch grains altered in contour and surface. 8. Three masses of tegument containing in all 30 gluten cells.

2. “Cold blast whole wheat flour, dark,” New York Health Food Co. Claim, “only tegument removed.” Re-

port, 1. Starch and starch bundles large and some nicely dissected. 2. Connective fibrous tissue plentiful. 3. Silk. 4. Polarized light well. 5. Two perfect hairs with tegument attached. 6. Tegument with no gluten cells. 7. Two masses of tegument with 30 *gluten cells*. 8. Minute granular masses of tegument that appear as if belonging to some other grain.

3. "Cold blast flour, *extra*," New York Health Food Co. Claim, "tegument and part of gluten removed. Report, 1. Starch bundles broken off with shapeless masses. 2. Polarization beautiful. 3. *Masses of tegument*. 4. Connective tissue. 5. *No gluten cells*."

Remark.—The extra consists in the entire absence of gluten cells.

4. "White gluten flour," New York Health Food Co. Claim, "*all gluten* and almost no starch. Report, 1. Starch grains abundant and polarize light well. 2. Starch bundles large and coarse. 3. Masses of tegument abundant and large. 4. In several specimens carefully examined only 70 gluten cells found."

Remarks.—On examining some crackers made by the same company, and claimed to be *entirely made of gluten cells*, I found mostly starch, with but a few gluten cells. Certainly the claim in this No. 4 was fraudulent.

5. "Whole wheat," New York Food Co. Claim, "tegument removed." Report, sustained.

6. "Pearl corn meal," New York Food Co. Claim, "tegument removed." Report sustained.

7. "Lost nation white flour." Claim to be a pure flour. Report, no gluten cells found.

Remarks.—This shows the effect of bolting. Compare with the standard meal as above.

8. "Rye flour coarsely bolted." Report, 1. Cellular straw tissue. 2. Starch bundles coarse and massed. 3. Gluten cells abundant.

9. "Barley flour," New York Health Food Co. Claim, "tegument removed, nearly all the remainder saved." Report, two large portions of tegument. No gluten cells.

10. "India wheat flour," Wilmington, Vt. No gluten cells. Polarizes well. Mostly large lozenge bundles of very minute starch grain.

11. "Buckwheat flour," New York Health Food Co. No gluten cells.

12. "Corinna (Minn.) flour, patent." Polarization beau-

tiful. Starch bundles quite uniform in size. *No gluten cells.*

13. "St. Paul (Minn.) flour." *Straight* giant starch. Two large masses of cooked organic substance. Tegument. Hairs of beard. Connective tissue. *No gluten cells.*

14. "Hazelton flour," St. Louis. Giant starch grains abundant. Starch bundles well preserved. Tegument. Hairs. Connective tissue. *No gluten cells.*

15. "Puritan flour," Michigan. Polarizes well. Starch granular and giant. Tegument. Hairs. Connective tissue inclosing starch grains. *No gluten cells.*

16. "Patapsco flour," Baltimore. Many masses of granular starch. Connective tissue. Hairs. Tegument. Some large bundles of starch. *No gluten cells.*

17. "Underwood flour," Illinois. Starch, giant, medium, granular. Bundles well formed. Tegument scant. Polarization fair. Considerable collections of mobile spores of a fungus, as if the flour had soured. *Three gluten cells.*

18. "Harrison wheat-meal." Starch bundles normal. All sizes starch grains. Tegument in large masses. Coarse and fine connective fibrous tissue. A beautiful collection of same, the bundles being emptied of their starch, yet retaining their shape as when filled—an exquisite skeleton of the bundles. Gluten cells abundant. Some were surrounded with gleaming spores of a fermentative vegetation. (The preparation had soured.)

19. "Sylvester Graham meal, 'bogus.'" This proved to be a dirty, ill-prepared specimen.

20. "Arlington wheat-meal," S. A. Fowle, Arlington, Mass. Many examinations conducted during a long interval of time show this to be rich in gluten and in the coats of tegument. It is what it claims to be—a meal made from the best winter white wheat the market affords. It comes next to the standard meal alluded to above.

21. "Entire wheat flour," Franklin Mills, Lockport, N. Y. *Claim*, a part of the tegument removed, but leaving the gluten cells. It is ground fine as a flour—attrition process.

Specimen (A) made from whiter wheat. Polarizes light well. Large piece of tegument involving all the coats. Starch bundles oval and ovoid. Three portions cigar coat. Four hairs of beard. Empty bundles of areolar tissue. Forty gluten cells in all.

Specimen (B) same flour, darker variety, contains large masses of tegument. Six hairs. Areolar tissue. Many well-formed starch bundles. Two thousand one hundred and three gluten cells.

Remarks.—Comparing 21 with the standard, it approaches the standard nearer than any of the FLOURS, but not so near as the Arlington wheat-meal. It makes an excellent bread. It is the nearest approach we have seen to a perfect *flour*. If this standard of manufacture is maintained, it should receive the patronage of all who are interested in the well-being of our race. No doubt the time approaches when milling will remove the outer four coats and leave the gluten comb coat entire; but till then, these morphological examinations show 21 to be the best manufactured flour.

22. "Melton's food." *Claim* to be a perfect infant food. Evidently a cooked preparation, as the wheat-starch was broken up and indifferent to polarized light. Four gluten cells, two without coat. Some emptied gluten cells. Hairs of beard of wheat. Granular masses of cooked substance. Preparation very sweet with sugar.

23. "Horlick's food." *Claim*, perfect infant's food. Tegument. Hairs. Starch and starch bundles of wheat evidently. No polarization. Hence, cooked. Considerable number of gluten cells.

24. "Imperial granum." Specimen obtained from consumer in New York City. *Claim*, "very rich in phosphates and gluten cells." A very careful morphological examination disclosed only *starch* that resembled, if not wheat, not a *gluten cell* found.

Remarks.—This specimen was really inferior to some common flours.

Instances have been brought to my attention where cholera infantum cases had failed to derive any benefit from the use of 22, 23 and 24, and yet when put on 20 or 21, preparations containing gluten cells, rallied and entirely recovered. It is a question whether 20 and 21 might not well supersede the preparations of infants' food in which starch and sugar are in excess. Twenty-two, 23 and 24 are given in milk, which is the saving element. It should never be forgotten that infants need in food all the chemical elements found in these tissues, and in physiological proportions. Starch and sugar being made up of C. H. O. (three elements), can not supply the sixteen elements

found and needed in the human body, but 20 and 21, and like preparations, contain nearly all the body elements, as shown by chemistry and histological botany. Few, even among physicians, realize the tremendous importance of our subject in a pathological point of view.

It is fervently hoped it may attract the attention of microscopical observers. Thus the microscope may become an engine of beneficence to mankind by showing that slavery to the æsthetics of sight in the matter of food ignores the common-sense claims of chemistry, botany, and physiology.

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Lecture on Diphtheria.

Prepared for the MEDICAL NEWS.

DIPHTHERIA was not known by its present name until about 1856. As a disease, however, there is evidence that it was known to the ancients. It is produced by a blood poison, and is infectious. It is much akin to scarlatina. In fact, many consider that the same *materies morbi*—blood poison—which produces scarlatina, produces it; the external manifestations being the only difference in the two affections. Evidently the two diseases prevail mostly at the same time. When there is an epidemic of scarlatina, then it is that diphtheria prevails the most. It is also admitted that in a family of children, that while a part will have scarlatina, a part will have diphtheria.

While the disease is propagated by contagion, it seems also that, under some circumstances, it may originate *de novo* in a case. Many cases arise that seem impossible to ascribe to contagion. In cities, sporadic cases occur the year round that seem to have arisen spontaneously or from miasmatic exhalations, in which the poison had become generated.

While diphtheria is undoubtedly a contagious disease, it is far more so with children than with adults. While the latter are liable to contract it, yet they more generally escape than children. The contagion is contained in the false membrane and shreds of tissue detached from the fauces, and in the breath of the patient. Niemeyer mentions the fact of physicians having become

infected by having the morbid products coughed out into patient, and I also have known of physicians contracting the disease in the same way. The poison, it is admitted, adheres with great tenacity for a long time to articles of clothing and furniture, and by these articles may be carried to great distances. Therefore the room occupied by a diphtheritic patient should, before being used by other individuals, be well disinfected and thoroughly ventilated; and the bed-clothing and garments of every description should be well aired and washed.

Brettonneau, who, in 1821, described the disease very accurately, regarded it as a local affection. We believe, however, that it is now considered by every one as a constitutional malady, caused by a peculiar poison. It has been suggested by some that the infecting agent is an organism of the bacteria group, such having been found in the morbid secretions, but it is scarcely probable. That a blood poison, which acts upon the blood and nervous system, is the agent in the production of the disease, is evident from the fact that not unfrequently death takes place so suddenly and rapidly at the beginning of the attack before sufficient throat symptoms or other external manifestations have shown themselves to have produced it. When during an epidemic we see death following a few hours after the onset of an attack, and there is but little throat affection, we are forced to conclude that the patient has been poisoned, and by a poison of a very virulent character, capable of almost at once destroying the vitality of the blood, and overwhelming the nervous system.

The throat is the locality where diphtheria usually exhibits its manifestations of deranged nutrition. Less frequently they are seen in the upper portions of the air passages, in the kidneys, spleen, and in some very obscure manner in the nervous system (Niemeyer). There is present a special inflammation of the mucous membrane, chiefly of the pharynx, tonsils and whole of the fauces—often involving more or less of the larynx and upper part of the trachea—attended with enlargement of the lymphatic glands, a rapid exudation either of fibrine or non-organizable lymph, and its deposit within and upon the surfaces affected. "The disease is accompanied by great prostration of the vital powers, and is followed by a re-

markable series of local lesions of innervation. The tendency to death is by asthenia, either coincident with the disease or gradually induced, or by apnea from implication of the air passages, which may happen as early as the second day, or as late as the second week of the disease" (Squire). Albuminaria is generally present. So great in quantity is the albumen sometimes that the urine is almost made solid by it after boiling or the addition of a proper amount of strong nitric acid.

Some constitutional symptoms often precede those induced by local changes. Frequently the throat symptoms are the first noticed. Among those that sometimes occur previous to the local manifestations are yawning or sighing, shallow and infrequent respiration, great lassitude and debility, some aching of the back and legs, either a distinct rigor or chilliness, pallor, a sense of nausea or rising in the throat, anorexia, sometimes vomiting or diarrhea, and in children convulsions, a sense of constriction across the forehead, or intense headache, vertigo, extreme muscular weakness, some anomalous fixed pain, an altered mental state, slowness of recollection, an indifference of manner, and an obtuseness of the mental faculties. There is elevation of temperature, increased at night, attended with wakefulness and restlessness." Of course the pulse will be accelerated, rising in young persons sometimes to 130 or 140 a minute. The respiration is not proportionately accelerated. The tongue is covered with a creamy fur. The lymphatic glands at the angle of the jaw are already perceptibly enlarged.

The local symptoms first manifest themselves by a feeling of soreness of the throat. Deglutition may be difficult, but not generally painful. At first the external swelling is not great, but later, in severe cases, may become very great. The tonsils are enlarged, and they, in common with the pharynx, the arches of the palate, the velum and the uvula, before any exudation makes its appearance, may become of a deep red color and unequally turgid.

The exudation upon the mucous surface is the characteristic phenomenon of the disease. There may be violent sore throat in scarlet fever and quinsy, but these affections are not attended with the exudation peculiar to diphtheria. It does not constitute the disease no more than the peculiar pustule in small-pox constitutes that

affection, but it is pathognomonic of it. When, in the midst of the disease, it is removed, it forms again. It appears to be a product of the inflammatory action of the affection, which, in some way, is modified by the diphtheritic poison. If an artificial inflammation be made by a blister, the surface will often become covered by this peculiar exudation.

The exudation may arise from a single point somewhere upon the mucous surface of the fauces and rapidly spread over all the parts affected; or it may begin by several centers, and spread from these until the whole mucous membrane within reach of the sight is covered. It may descend into the larynx, trachea, and the bronchi, or it may ascend into the nares. Dr. Stokes mentions a case in which the exudation was prolonged from the the trachea into the right bronchus, and, onwards, as far as the fourth and fifth bronchial ramification of the right lung. It has a variety of appearances. "Sometimes it is granular, with very little consistence or tenacity. Sometimes the part is covered with a pulpy substance of a white or grey color; but this pellicle is constant in some form or other, and is possessed of the power of reproducing itself. . . . The commencement of the formation is really an act of coagulation. The mucous membrane exudes, in the first instance, a fluid in which the *fibrin* or *mucin* coagulates; and such coagulated material forms the tube casts which line the surface of the larynx and trachea, but from the mucous surface of which they come to be separated by a considerable interval; and generally it may be stated that there is the greatest possible variation as to the extent, the consistence, the color, and adherence of the pellicle. Sometimes the particles of lymph are so thin, soft and separated from each other, that the term membrane can scarcely be correctly applied to it. At other times it is tough, elastic, and as much as an eighth of an inch in thickness" (Aitken). In the former case it resembles cream in consistence, in the other, wash-leather. Between the two extremes, there is met with every degree of consistence and tenacity. It is stated that pus, granular corpuscles, oleo-protein granules and epithelium constitute the bulk of the softer forms of the so-called lymph.

The enlargement of the glands, says Dr. Aitken, is in proportion to the severity and depth of the local, nasal,

pharyngeal, laryngeal and tracheal disease. In consequence of the effusion of serum and exudation of lymph into them and into the connective tissues in which they are placed, when there are fetid discharges from the mouth and nose, very great general swelling of the parts is the result.

The microscope exhibits micrococci in the exudation, and some are disposed to regard them as the cause of diphtheria (Wagner). Fungi of various kinds are also mentioned by Wagner as almost constantly occurring in *diphtheritic exudations*. "There arises," says he, "differences of opinion concerning whether the fungus is only accidentally present, or whether it is the essential cause of the local and general disease not infrequently connected with it; the former appears to be the case from investigations on man, the latter from the numerous experiments by inoculations on animals. In man fungi (micrococcus, vibrio, leptothrix) recur constantly in the uppermost layers of laminated epithelium. They are found mostly as masses of globular bacteria, regularly also in the uppermost layers of not quite fresh croupous and diphtheritic deposits." (Amer. Ed. from 6th Ger. Ed., p. 267.)

Diphtheria is divided by some writers into different varieties—the catarrhal, the croupous, the septicemic and the gangrenous. I do not consider, however, that there are any especial advantages in making arbitrary divisions. Of course, as in some other affections, cases vary in severity of symptoms—some being quite mild and others exceedingly malignant, and between these extremes every grade of severity. Under the circumstances of making divisions of the disease, all cases recovering would be classed as catarrhal, and those terminating fatally, if not brought about by some evident cause, as malignant or septicemic.

But in recognizing a septicemic variety there is implied an inconsistency. It is understood that the disease is produced by a specific poison, which is multiplied in the patient, and is contained in the secretions, excretions, exhalations, blood, etc. That in the septicemic variety the patient has become further poisoned implies poisoning one already poisoned, or "a poison on a poison"—or, may almost be said, contracting the disease from one's self. It may be urged, however, that, in the septicemic

variety, it is not meant that the patient has been re-poisoned by the absorption of the diphtheritic poison, but by the absorption of purulent matter or dissolved broken-down tissue. But I think it will be found by observation that the differences in the severity of attacks are owing to the grade of the malignancy of the specific poison in the first instance. There are epidemics in which nearly all the cases are of a mild type, and, again, other epidemics in which all are of a malignant character.

Of course the exudation having a tendency to spread in all directions after forming upon some part of the fauces, it is liable at any time to extend into the larynx and trachea, and be followed by symptoms peculiar to primary croup. But such an occurrence should more properly be regarded as an accident or circumstance in that particular case, rather than forming a variety of the affection. I know that pathologists class an inflammation of a mucous membrane, attended with exudation, particularly if of a plastic character and about the air passages, as croupous (Wagner), and, therefore, those who make a *croupous* variety of diphtheria imply by it not merely the involving of the upper part of the air passages by inflammation, but also the existence of plastic exudation. But it is an error thus to imply that the *character* of the inflammation of the disease varies; for a diphtheritic inflammation is *per se* croupous (not that a croupous inflammation is necessarily diphtheritic), and the degree of consistence and tenacity of the exudation or pellicle attending it, is, no doubt, owing to the systemic condition of the patient or other accidental circumstances.

Objections can be easily brought to bear against making a gangrenous variety of diphtheria as mentioned by Prof. Bartholow in his late work.

The invasion of the air passages is of very common occurrence, and, as might be supposed, under the circumstances, the fatality is very much increased. In fact, the larynx and trachea are sometimes first attacked, and, then, in consequence of the exudation characteristic of the inflammation, there will be croupal symptoms manifested from the very beginning of the disease. Usually, however, the affection extends to the larynx from the pharynx, the membranous inflammation extending from one to the other by continuity. "But since in this case," to quote from Dr. Bristowe, "the preceding affection of the pharynx

is often exceedingly slight, not to say trivial, and has very likely given little or no positive indication of its presence, the laryngeal sequence is very apt to be assumed to be the primary disorder; and the case falls in with the classical descriptions of croup. In many cases, however, the pharyngeal affection is severe, and has been recognized before the symptoms of croup appear.

“Thus diphtheritic affections of the larynx and other air passages may either be secondary to pharyngeal diphtheria, or may commence in the larynx or trachea, or possibly even in the bronchial tubes, and then either remain limited to these parts, or spread upward to the pharynx. Under any circumstances the symptoms resulting from the laryngeal or tracheal affection are of the same kind, and of extreme gravity. The child (for although membranous croup occurs in adults, it is children who mainly suffer) is first attacked with a frequent, short, dry, perhaps metallic cough and slight hoarseness of voice—symptoms in this affection of the worst omen, even if in the other he appears, as is usually the case, to be fairly well. But soon some difficulty of breathing supervenes, commencing usually in the night. The symptoms now rapidly increase in severity; the respirations (inspiration more than expiration) become noisy, sibilant, stridulous or metallic, especially after an attack of coughing; the voice grows hoarse and weak, or fails; the cough becomes less frequent, but more severe—paroxysmal, suffocative, harsh, unmusical, wheezy, occasionally, but not commonly, hard and metallic; and during the paroxysm of cough the child tosses itself about, sits up, clutches whatever is near it, throws its head back, opens its mouth, dilates its nostrils, and struggles for breath; the general surface and the face especially become more or less livid, the eyes staring, the expression one of intense anxiety.” To these symptoms mentioned, others of a most severe character follow, and, finally, the patient expires. Sometimes before death occurs the most alarming symptoms may for a while intermit, and there may be hopes of recovery. But they soon generally commence again, and a fatal result follows. Death takes place sometimes in a few hours, rarely later than the fourth or fifth day.

(To be Continued.)

Eczema of the Ear.

BY W. R. AMICK, M. D., CINCINNATI, O.

(Read before the Alumni Association of the Cincinnati College of Medicine and Surgery, March 1, 1881.

AN old proverb reads, "He that hath ears to hear, let him hear;" but should a person be so unfortunate as to have an eczema of the ears, which has continued for an indefinite length of time, involving the external auditory canals, and has never had the proper remedies applied to such an one, I think the prophet, had he been conversant with the disease, would have modified his injunction, and said, "He that hath ears to hear, let him hear," provided he does not have eczema.

There has been considerable controversy as to whether eczema was a disease *per se*, with various stages, or whether it was simply the effect of some cutaneous irritation, and denominated eczema to distinguish it from the larger or herpetic form of eruption.

Hebra and other dermatologists believe that, while this form of eruption will admit of a separate and distinct description and recognition, yet it may follow or be developed from lichen and other papular diseases. Erasmus Wilson defines it as follows: "It is a superficial and chronic inflammation of the skin, with the tendency to the exudation of an ichorous fluid; the fluid being sometimes detained in minute vesicular elevations of the epidermis, sometimes free, and sometimes infiltrated in the tissues of the skin."

Eczema of the ear is most commonly met with in persons having a strumous diathesis, in children, and in females at the climacteric periods. It sometimes presents itself as an attendant on phlyctenular ophthalmia, and it may be followed by the latter. It is common for it to develop in cases of seborrhœa of the scalp. Syphilis may be an element that will require consideration in the treatment of some cases. A purulent discharge from the middle ear may be the exciting cause for its development upon the auricle, the pus acting as an irritating agent. It has been remarked by some writer upon the subject that, in his opinion, there was an excess of acid in the blood, and that the proper treatment would be remedies to

correct this acidity. This view is held to a certain extent by Dr. Aydelotte. If this view of excessive acidity is correct, then we can easily see why an acrid and acid discharge in the shape of an otorrhœa would cause it to develop upon the auricle. We might go a step farther, and say that the probabilities are, that the otorrhœa was caused by the system being surcharged with acid, and having a predisposition to congestion of the tympanum from some source, there would exist a tendency to inflammation which would be augmented by this condition. Given the spark, it requires but the fan to develop the flame; given the lactic acid in the blood, it requires but the exposure to develop the rheumatism. Why may it not also be true of this disease? We have the conditions, if the acid theory be true, to develop an irritation in the tympanum, as well as upon the auricle. From irritation to inflammation is but one step, and pus is the result of the latter. Then it may be that the origin of an otorrhœa, which is followed by vesicular eruption upon the auricle, is the same as that which would cause the latter without the former. However, it is not the province of this article to discuss this phase of the question; but I have made these remarks for the purpose of calling your attention to the subject, and it may be that in the future you will have an opportunity to verify them.

The eruption may present itself upon the auricle first, and then extend into the external auditory canal, and to the integument of the neck and face. A favorite locality appears to be just behind the auricle, and at the union of the lobe with the face. It is attended with itching and burning, and in some cases, with redness and swelling of the auricle. The vesicles burst, and give exit to a thin straw-colored fluid, which is very acrid. After bursting, the vesicles frequently coalesce, and the fluid drying forms a continuous crust over them. On account of the itching, the patient can not very well resist the temptation to scratch the excoriated part, and this irritation causes it to spread more rapidly, and produces cracks or fissures, which are sometimes very painful. In a similar manner it can be transferred from one place to another. In the case of a little girl which I had under treatment, the disease, apparently, at least, was developed from an otorrhœa. It spread all over the auricle, and on the side of the face and neck. Following this, she had seborrhœa

of the scalp. The vesicles coalesced on the auricle until it was completely covered with the crusts, so much so that it was impossible to see the integument. In this case the posterior surface of the auricle was covered as completely as the the anterior. There was a very free exudation, and it excoriated the integument wherever it came in contact with it for any length of time. The burning and itching was very marked, and our little patient could not be prevented from scratching the vesicles with her fingers, and by so doing she transferred some of the fluid to her eyes, and purulent ophthalmia was the result. In this case we gave her *Syr. Ferri Iod.* internally, and after removing the crusts, applied an eighty-grain solution of nitrate of silver with good results.

Chronic eczema is often very obstinate, and frequent relapses are not uncommon. The danger is that, if the disease is not originally in the external auditory canal, it may extend into it, and impair the hearing. This may be done by the secretion filling the canal and pressing upon the *membrana tympani*; or the infiltration may thicken the integumentary lining of the canal, lessening its caliber. In either case, inflammation and perforation of the drum membrane may take place, with an extension of the disease to the middle ear, and a reduction of the hearing power would be the ultimatum.

For ordinary purposes there is commonly recognized two forms of eczema—the acute and the sub-acute or chronic. The former is generally very amenable to treatment, and usually does not require anything more than cleanliness and an astringent lotion, together with some protecting agent. The chronic form, however, is more obstinate, and frequently continues for a considerable length of time. The local applications that have been made in this disease at various times comprise nearly all of the astringent and alkaline remedies of the *pharmacopœia*, and many of the caustic and unguent preparations. The chief desideratum in this disease is cleanliness; *i. e.*, careful removal of the crusts, and some soothing application that will protect the excoriated parts from the atmosphere, and allay the irritation.

Saunders, in speaking of this disease more than sixty years ago, called it herpetic ulceration of the *meatus externus* and auricle. He says: "It always produces a great thickening of the integument, and the passage is

often so much closed that a great degree of 'deafness ensues." He also mentions that the ichor which exudes from the pores of the ulcerated surface inspissating in the meatus, and not only obstructing the entrance of sound, but accompanied with a great degree of fetor. He gave calomel internally, and injected a lotion of hydrargyrus muriatus cum aqua calcis, and applied unguentum hydrargyri nitrati, and in some cases injected a solution of argentum nitratum.

Dr. Aydelotte, in the *Med. and Surg. Reporter*, gives his treatment for eczema, not localized, as follows: "In regard to the internal treatment of said disease, the only suggestion I have to make, which I think is not generally adopted, is the use of antiacids in sufficient doses to establish and maintain a neutral or alkaline condition of the secretions, thereby rendering that of the skin non-irritating, which, I conceive, greatly mitigates the intense itching and burning heat sure to supervene when the patient seeks his couch, gets snugly wrapped up and in perspiration."

"Given in this disease, with other remedies of an essential nature, there need be no fear of any debilitating influence from an alkaline treatment carried to the extent above indicated, and so maintained for an indefinite time."

The following prescriptions are used by Dr. Aydelotte: Sod. Bromide, $\mathfrak{z}\text{i}$; Sod. Bicarbonatis, $\mathfrak{z}\text{ii}$, ss. M. Ft., chart No. xxx. Sig. One powder in water a short time before each meal. R. Acidi Arsenosi, gr.i; Quiniæ Sulphatis et Ferri Redact. aa, $\mathfrak{z}\text{ss}$. M. Ft. Pill No. xxx. Sig. One pill half an hour after each meal.

For an external application he has derived the most benefit from a one per cent. solution of cyanide of potassium.

Dr. H. Knapp (*Archives of Otology*, vol. ix., No. 4) states that he has used nitrate of silver for many years with greater satisfaction than with any other remedy. He uses it in varying strengths, from a weak solution to the pure lapis.

Von Troltsch uses warm fomentations with astringent lotions, especially acetate of lead. He considers that the use of fats and oils is especially adapted for the chronic and impetiginous forms. He uses the unguents for the purpose chiefly of softening the crusts. After they have been removed, and the parts thoroughly cleansed, he

then applies his astringent lotion, and then starch or rice-meal.

Dr. Roosa says that the auricle should be kept from the air, which may be done by the use of oils, powders, or a plaster-of-Paris bandage. A good application is the formula of Ausspitz: *R̄. Zinci Flor.*, ʒii; *Pulv. Alum et Amyli*, *Pulv. aa* ʒi, *M.*, and dust this powder over the excoriations with a camel's-hair brush. He states further that the only specific remedy for internal use in chronic eczema of the auricle, as well as that of the same disease in other parts of the body, is arsenic. He also gives the following sound advice: "We may fail to cure many a case of the integument lining of this part if we do not carry out our own advice: we should never give over the treatment into the hands of the parents or attendants of the patient, for they will prove incompetent assistants."

Toynbee says, "The treatment of chronic eczema is very similar to that of chronic erysipelas. Frequent ablutions with tepid water, combined with emollients, should be practiced in the early stages of the affection, when the skin is very sensitive, and the latter should be protected from the air by oiled silk or very thin vulcanized India rubber. Afterward, mild astringents are to be used, and, as Mr. Wilde recommends, a solution of gutta-percha in chloroform may be painted over the surface several times, until a complete coat has been formed, which is to be renewed from day to day as often as it peels off. Later, when the epidermis and dermis are both involved, he uses unguentum zinci or unguentum hydrargyri nitratiss."

Burnett says that "various kinds of local treatment have been proposed for the chronic form of eczema of the auricle, among which the best are painting the diseased parts with acetum cantharides, nitrate of silver and the application of emollients."

Dr. Duhring uses the following unguent: *R̄. Hydrargyri Ammoniati*, gr. x-xx; *Adeps*, ʒi. *M.* and apply to the ulcerated surfaces.

Cleanliness and removal of the crusts is the first part of any or all of the various forms of treatment to which we have referred. There is no rule that can be given as to the number of times the ears should be cleansed. Suffice to say, at least as often as the medicine is ordered applied, and Dr. Roosa's advice should not be forgotten.

I have depended chiefly upon nitrate of silver for a caustic application, the solution varying in strength from one per cent. to two hundred and forty grains to the ounce. The best unguent that I have used, giving the most general satisfaction, is the following: *R. Morph. Sulphatis, gr.ii; Ac. Boracic, ℥i; Ac. Tannic, gr.ii; Vaseline, ℥i. M. and apply.* In some cases I have substituted hydrarg. chlor. mit. for the ac. tannic with beneficial results. In the majority of these cases it is necessary to give constitutional treatment. The best is arsenic with ferruginous and bark preparations and alteratives. For a powder to dust over the excoriated surfaces, after the other remedies have been applied, I have found that equal parts of amylum and farina answers as well as anything that I have tried. If there is much heat and itching, I have the parts bathed in a solution of ac. boracic and plumbi acetat. If there is much pain, I add some morphia to the powder. I have also found that the following makes a good application: *R. Morph. Sulph., gr.ii; Bis. Sub Nitrat. et Pulv. Acacia, aa ℥ii. M. and applied to the excoriated parts.* The moisture from the secretions forms this into a paste. In children it is a good plan to apply a bandage, as it affords the best protection to the diseased parts.

The older writers upon medical topics were at a loss to explain the cause of certain diseases, especially those that began with irritation followed by inflammation and a discharge, generally of pus. At the present time the view is quite generally accepted that the cause can be traced to some form of germ or parasite, and that the proper treatment in such cases consists of remedies that will destroy them.

SELECTIONS.

A Case of Traumatic Epilepsy.

PENNSYLVANIA HOSPITAL. SERVICE OF DR. R. J. LEVIS.

GENTLEMEN—The study of that curious diseased condition, known as epilepsy, naturally divides itself into two grand divisions, namely, traumatic and idiopathic epilepsy; of course the phenomena presented in both con-

ditions are nearly allied, still there are some points of difference. Before proceeding to consider the case of J. G., aged thirty-five, it may be well to tell you what is meant by the terms traumatic and idiopathic epilepsy. Traumatic epilepsy is a diseased condition of the nervous system due to violence to the cerebral structures, or to pressure exerted upon the cerebral hemispheres by reason of depressed portions of bone, the results of fractures of the skull, resting upon those structures. Idiopathic epilepsy, on the other hand, finds its origin in some diseased condition of the cerebral mass not dependent on extraneous causes, but on a degenerated condition of the cerebral matter itself; or, again, it may be due to syphilitic or other deposits. This variety of the disease, however, concerns the physician more than the surgeon, and so I leave it to my *confreres* of the medical staff to discuss more exhaustively with you. As to the time, frequency and method of seizure in cases of traumatic epilepsy, I have a few words to say. As a rule, traumatic epilepsy does not make its appearance until some time after the receipt of an injury; thus, for instance, in the case of J. G., now before you, three years elapsed from the time of the receipt of his injury till epileptic symptoms first manifested themselves. In the meantime he had gone about his business, and had experienced no unpleasant symptoms and no inconvenience of any kind; true, in this case a rather long period elapsed between the injury and its deplorable consequences, but it only serves to prove the truth of what I have just told you. Now, as a differential point, I may say that if this was a case of idiopathic epilepsy the symptoms would have probably made themselves manifest early in life without a history of any exciting cause, as we have seen in this case. Further, in idiopathic epilepsy the attacks may happen at night after the patient has retired, whereas in traumatic epilepsy the seizure is liable to come at any period of the day, and to be precipitated by any excitement which tends to engorge the cerebral circulation and thereby increase the pressure of the cerebral mass against the impinging fragment of bone. An idiopathic epilepsy may also happen during the day, and under exciting circumstances, but I now merely lay down a general rule, from which, of course, there may be many departures. As to the frequency of the attacks, in idiopathic epilepsy

the frequency of the attacks increases in a direct ratio with the time of the duration of the disease; in other words, the longer the time that the patient has been a victim to the disease the more often do the attacks occur. While this proposition is true of idiopathic epilepsy, it may also to some extent be said to apply to the traumatic variety of the disease. In the latter case, however, it seems that for long periods at a time the brain appears to accommodate itself to, or to tolerate the presence of, the foreign body (which the bony projection practically is) pressing upon or into its substance. Now, for instance, in the case before you, the patient, who has now almost become an imbecile, tells us that the attacks of epilepsy, when they first made their appearance, followed each other at long intervals, but that gradually they increased in frequency, until now he presents every two hours a peculiar cataleptic condition; these attacks coming on suddenly, and differing from an ordinary epileptic condition in that during their continuance he may maintain the upright attitude, the countenance and body becoming fixed and rigid, the eyes set and staring, while the other senses are in abeyance. On recovering from one of these spells, which, however, during the last two days have been somewhat ameliorated by large doses of bromide of potassium, he is unaware of what has taken place around him. These cases of traumatic epilepsy differ also somewhat from the idiopathic variety in the method of attack. In an idiopathic epilepsy the patient is sometimes made acquainted with the approach of a convulsion by means of certain peculiar phenomena, which have received the name of the "aura epileptica." A peculiar numbness and tingling in the ends of the fingers and toes, which, rapidly proceeding up the limbs, seems, as it were, to explode in a convulsion, has been repeatedly spoken of by various observers. In the same way a feeling as though a ball were being pushed up from the abdomen into the throat has also been commented upon. In cases of traumatic epilepsy these symptoms are not so often noticed, and, in fact, are frequently wanting. At times, instead of the disease being due to the pressure of depressed portions of bone, it seems to take origin from the pressure of the thickened membranes that remain when the operation of trephining has been performed; or, again, a hard cicatrix

pressing down on a thin plate of bone, which borders the space left vacant by the removal of a disc of bone, may be at the root of the trouble. The history of the man before you is that thirteen years ago he was struck on the head over the upper and posterior portions of the parietal bone with a brick. A compound comminuted fracture was the result, for the relief of which the trephine was employed by a gentleman of Williamsport, in this State. For three years afterward he got along very comfortably, at the end of which time, however, he grew somewhat intemperate, and then first appeared the epileptic seizures; his condition progressively became worse, until now, as I have already told you, he has a cataleptic seizure every two hours, which may terminate in an epileptic convulsion, or which convulsion may only make its appearance every two, three or four days. From being an intelligent man he has become almost idiotic; this being the history of nearly all epileptics. On examining this man's skull I find over the parietal bone decided evidence of depression in the integuments over the spot from which the comminuted fragments were originally removed. Running backward and upward there is a hard, cicatricial ridge or elevation marking one of the lines of the depression. It is my impression that this is the point at which an injurious compression of the brain substance is being exerted, and not at the point where the section of bone was removed in the trephining operation. Acting on this supposition, I propose, this morning, to apply the trephine in the line of this cicatrix, hoping thus, and by elevating any other depressed portion of bone that can be found, to afford the man some relief, and to thus enable him to continue his business, which he is now unable to pursue. In the performance of the operation I shall use a trephine whose cylinder is straight; in the hands of a novice or an awkward operator the conical trephine is better, there being less risk of perforating too deeply in its employment, owing to its somewhat tapering end. Upon making a trap-door incision through the scalp, although many operators prefer a crucial incision in performing this operation, I find a rather prominent, rounded edge of bone bounding the original opening. Having scraped off the pericranium, and being careful not to injure the dense membrane which at this point protects the brain, I proceed to employ my trephine to remove this prominent edge.

The instrument, being held in place by a movable pin till a groove has been cut into the bone, is given what might be styled a fore and back circular or rotary movement, the pin of the instrument being pushed up into its sheath after the trephine has made for itself a resting groove. A tooth-pick or ordinary quill is employed to determine the depth to which the instrument has penetrated, and the portion of the bone can readily be lifted out of its bed by means of an elevator, this latter instrument having been passed beneath the edges of the opening in order to discover if any depressed portion of bone remains. The operation may now be said to be terminated, and the scalp wound is brought together and a carbolized dressing employed.—*Boston Medical and Surgical Journal*.

Lateral Deviation of the Septum Narium.

DR. DELAVAN, at a meeting of the New York Clinical Society, reported in the *New York Medical Journal*, November, 1880, mentioned the somewhat singular occurrence of three cases of acute purulent catarrh in the same family at the same time. Those affected were aged respectively six months, two and a half and four years. In the three children the disease was confined entirely to the left nostril, although there was no deviation of the septum, congenital or required. Ordinary treatment effected a cure. It seemed probable that contagion was an important element in the causation. Contraction of the nasal passages, whether from deviation of the septum or from any other cause, favors the establishment and continuance of chronic catarrh. The treatment recommended was to break the vomer with a strong forceps, and obtain repair while the septum was kept in proper position. Dr. Bangs alluded to the case of a young man, who had been under his care for the relief of too frequent seminal emissions. It was found that these occurred only when the patient was sleeping on his left side, and it was also found that, notwithstanding the urgent endeavor of the patient to sleep on the right side, he would unconsciously turn upon the left. The cause for this was found to be a deviation of the septum nasi toward the left nostril, very much contracting it; and when he lay on his right side; the contracted nasal passage being up-

permost and the lower or unobstructed one being partially closed by the pressure of the pillow, he failed to obtain sufficient entrance of air, and consequently experienced a sense of discomfort which led him to turn upon the left side. Treatment was directed toward the relief of the nasal deformity. An endeavor was made to crush the partition with a strong forceps, but it was unsuccessful. Then a piece of the cartilaginous division was removed, and it became possible to cleanse the obstructed passage thoroughly. Finally, by the contraction attending the repair of this opening, considerable improvement took place, the convexity being partially obliterated. The patient, being now able to sleep on the right side, was encouraged to do so, and the frequency of the emissions was much reduced.

The Production of Diphtheria in the Lower Animals.

THE word diphtheria and its derivatives are about as ill-used as any in medical nomenclature. Their strict significance as applied to the phenomena of the disease called diphtheria is varied by their application to a great range of conditions, from croup to almost every tough membrane that forms in any part of the body; and this, exclusive of the careless use of the term diphtheritic for simple sore throats. Every addition, therefore, to our knowledge which tends to a greater accuracy in regard to these terms is a thing to be thankful for. Such an addition has just been made by Drs. H. C. Wood and H. F. Formad, in their report on the Production of Diphtheria in the Lower Animals, of which an epitome appears in the *Philadelphia Medical Times*, Oct. 23, 1880.

The results of their investigations, which have been very thorough, are quite interesting. Thirty-two experiments were made, in which fragments of membrane from patients with diphtheria were inoculated under the skin or the mucous membrane of the mouth of rabbits, cats, dogs, and a goat. Six rabbits, out of eighteen, died. In no case was there anything like diphtheria caused—with one very doubtful exception. Of those that died none had their internal organs infested with micrococci, as Oertel has asserted. Thus were confirmed the observations of Curtis and Satterthwaite, who made an elaborate

investigation in regard to bacteria, which they reported to the International Medical Congress in 1876. What *was* found in every case that died was *tubercular disease*. This was also seen in the rabbits which were killed and examined a few days after inoculation. A remarkable finding of the experiments was that none of the inoculations in the mouth produced local or general symptoms. Nine inoculations with innocuous matter were made, and five caused tuberculous disease. The diphtheritic inoculations first caused local inflammation with cheesy deposits; so the experimenters concluded the tubercles were an indirect result of the inoculations. False membranes were induced in numerous instances by the action of ammonia, and the correctness of the assertion that these traumatic membranes do not contain bacteria was found to depend upon the time they had in which to develop. Four experiments consisted in injecting pus into the trachea, in two of which false membrane followed.

The difference between croup and diphtheria the experimenters were led to think might depend upon the fact that the mouth and throat have squamous and tightly adherent epithelium, while that of the trachea is columnar, ciliated, and, even in health, easily detached.

The general result of the experiments makes it seem probable that diphtheria is a septic disease, the poison of which is very irritating, and may, when brought in contact with a mucous membrane, produce high inflammatory local action without being absorbed; it may also be absorbed and produce systemic poisoning; or it may be absorbed first and then produce, secondarily, local symptoms. Further—and this is the most striking of all the conclusions of Drs. Wood and Formad—"a simple local trachitis, *produced by exposure to cold or some other non-specific cause*, may produce the septic material whose absorption shall cause blood-poisoning, the case ending as one of adynamic diphtheria."

The Treatment of Enteric Fever.

BY JOHN S. BRISTOWE, M. D., F. R. C. P., LONDON.

MEDICINE.—Enteric fever is one of the many diseases for which as yet no specific is known, and for which I

am inclined to think no specific will ever be discovered. It was maintained even a few years ago, that an emetic given early in its course would frequently arrest its progress, and my late colleague, Dr. Brinton, was a believer in this reputed effect of emetics. It has also been held that the diarrhea is salutary and eliminative, and that by promoting or encouraging it, the disease may be shortened or rendered less severe. These views were based on an imperfect appreciation of the nature of the disease; on the belief either that the intestinal affection is primary, and to be got rid of, like lice externally, or intestinal worms within, by local remedies; or that the intestinal mucous membrane is an organ by means of which the specific poison of the disease is endeavoring to escape. But even though the contagion of enteric fever be received into the stomach, it has long passed thence into the system before the symptoms of the disease arise; and obviously, at this time, whatever opportunity for the successful use of emetics might theoretically have been present at the beginning has long passed away. And to look on the diarrhea which is due to the enteric lesions as eliminative, is to look upon these lesions as centers of elimination, and is equivalent to regarding the eruptions of the eruptive fever, which are mere foci for the growth of poison, as organs developed for the discharge of poison pre-existing in the blood—a view which is manifestly absurd when applied to the pustules of small-pox, or the tubercles of syphilis. But, if we can not cure enteric fever or eliminate its specific poison from the system, we can at any rate treat, and in most cases relieve, some of its most distressing symptoms and complications.

Diarrhea is one of the most characteristic, and often one of the most troublesome and dangerous symptoms of the disease. It is often absent, however, for days together; and occasionally is replaced by constipation during the whole course of the disease. Many physicians, and some even of our most distinguished contemporaries, would encourage by laxatives the diarrhea, if not carried to excess; and would endeavor to excite it in cases attended with constipation. The practice is based on the opinion already referred to, that the poison tends to escape by the bowels, and on that that the retention of poisonous and putrefactive matters in the bowels is a

source of danger. From the former of these views I have already expressed my reasons for dissenting. As to the latter, I can only say that the motions are not, I believe, specially offensive, or, except in a specific sense, poisonous; and that the bowels, after all, naturally contain ordure. But on the other hand, persistent diarrhea tends materially to weaken the patient; the commotion which attends it is a source of direct danger to the diseased bowels; and, further, diarrhea, once brought on artificially, is very often difficult to be restrained. I have no doubt myself that, although two, or even three evacuations in the day may not call for measures of restraint, diarrhea, if it should exceed this amount as a rule, ought to be checked. Of all medicines opium, in its various preparations, is the most valuable for this purpose. It may be given by the mouth in frequent small doses, or by the rectum in the form of small enema or suppository. The dose and frequency of administration must of course depend on the amount of diarrhea present, and on the age and condition of the patient. Other remedies, which may be employed either alone or in aid, are the vegetable astringents, especially kino, catechu and tannic acid, sulphuric acid and lead. It is important to bear in mind that the danger of diarrhea depends not only on the actual profuse discharge of fecal matter, but on the peristaltic movements which accompany it, and which tend to cause rupture of thin-based ulcers. Now, this peristaltic movement may be present in the ileum, even when constipation prevails; for the large intestine, from being healthy or torpid, may fail to propel onward the matters which are being constantly poured into it from the small intestine; that is, diarrhea, so to speak, may be taking place from the small intestine into the large at a time when actual constipation exists. It is clear, therefore, that opium may be demanded to restrain the painful or violent movement of the bowels, even when the bowels are constipated.

Constipation, nevertheless, has at times to be dealt with. Is it right that constipation, when present, should be allowed to continue until nature brings relief, or should it be obviated by medicinal treatment? I do not think that constipation of a few days' duration is at all likely to be injurious; and, indeed, I have seen it continue for a considerable length of time without causing

any ill effects. It is not, however, desirable in itself that the bowels should be locked up; and, moreover, constipation long continued is apt to induce diarrhea. Whether we should do anything, however, and what we should do, depends largely upon the condition of the patient and on the stage of his disease. There can be no doubt that during the first week or ten days—that is, before ulceration has commenced—laxatives, such as castor oil and rhubarb, may be given with impunity, and often with benefit. But after ulceration has begun, and thence onward until convalescence is far advanced, even the mildest opening medicines must be looked on with suspicion; and, although I would not venture to maintain that under no circumstances should castor oil or rhubarb be given during this period, I am sure that on the whole it is better and far safer to relieve the overloaded bowels by mild enemata. In support of this statement I may remind you that constipation is almost due, not to sluggishness of the small intestine, but to sluggishness of the large intestine, in which the feces accumulate and harden.

Hemorrhage from the bowels may occur early in the disease, and is then in small quantity and of no importance. When, however, it takes place from the ulcerated surfaces, and after the second week, it is a matter of serious alarm. It is true that the patient usually recovers, even though it be copious, and that very often it does not recur. But in some cases the blood escapes with sudden impetuosity, and the patient dies rapidly in a state of collapse; and in some the hemorrhage is so frequently repeated that the patient, who may seem doing well for a short time, finally sinks. I am inclined to think, with Sir W. Gull, that this bleeding is practically beyond our control; and that the patients in whom our remedies seem to be efficacious are those in whom the hemorrhage would not have recurred, even if no treatment had been adopted. It is not by applying weak astringent solutions to external bleeding wounds that hemorrhage therefrom is restrained; and few, I should think, would have any faith in the possibility of arresting such hemorrhage by the internal administration of astringents. Nevertheless feeling it to be my duty to do everything in a dangerous crisis which might tend, however little, to benefit my patient, I should certainly under such circumstances give

him ice-cold fluid to drink; apply cold compresses to the abdomen, and administer either lead, or tannic acid, or digitalis, or ergot, or turpentine, or perchloride of iron.

Perforation of the bowel and consequent peritonitis are almost invariably fatal; the only treatment, in addition to local applications to the abdomen, consists in bringing the patient speedily, and in keeping him, under the influence of opium.

High temperature (a subject to which I shall presently recur) is, no doubt, in itself an element of danger; and for this reason its reduction seems desirable. Various medicines have been employed with this object, the most important and efficacious of which are quinine and salicylic acid. In order that quinine shall reduce temperature it requires to be given in large doses—thirty or forty grains at once, or in installments at short intervals. Thus administered, it reduces the temperature by three or four degrees in the course of a few hours, and the temperature may remain low for a dozen hours or more. Salicylate of soda may be given in doses of twenty or thirty grains every four hours, and also causes marked reduction of temperature. But in both cases the reduction is of temporary duration only, and the drug requires to be continued. I have not employed either of these remedies largely in the treatment of enteric fever; and I must confess that my own experience of their use has not impressed me favorably. Of the treatment of other complications I do not propose to speak; and it only remains for me to add, under the head of treatment, that, during convalescence, tonics, and especially the vegetable bitters, are of great value.

ALCOHOL.—It is impossible to discuss the subject of the treatment of fevers without referring to the question of the use of alcohol in relation to them. In the early part of this century, when blood-letting was the fashion of the day, stimulants were seldom employed in the treatment of febrile disorders. Of late years, however, alcohol has not only been regarded by most physicians as an essential element in the treatment of fevers, but by many has been esteemed our sheet-anchor, and has been used sometimes in appalling quantities. The reason, however, for giving it thus was not simply to obtain its stimulating effect, but the belief that it was an article of food, and that it was assimilated by the patient at a time when

other kinds of food could not be taken or were inadmissible. I see no reason to doubt that alcohol is a food; at any rate it contains the same elements as starch and sugar, which are undoubted foods; and the experiments of Thudichum and Dupre show that when once taken into the system it is used up in the system, and escapes in very minute proportion through the emunctories. But we have, doubtless, many foods that are more valuable as foods than alcohol; and in milk, at any rate, we have one which is generally more suited for invalids. It is rarely necessary, therefore, to have recourse to alcohol as food; and its use in fevers mainly depends on its primary or stimulating—its medicinal—influence. I have never used alcohol indiscriminately in any kind of fever cases; and, indeed, ever since I have had the care of patients in St. Thomas's Hospital I have been very sparing in my use of it. In the year 1863, when typhus was prevalent in London, I carried out an experiment which I have never published, and which Dr. Murchison carried out independently on a larger scale a few years later at the Fever Hospital, with similar results to those which I also had obtained. I treated, without selecting them, half of my typhus patients with alcohol from the beginning to the end, half of my typhus patients without alcohol, also from the beginning to the end, and found no appreciable difference in the results. From that time I have never regarded alcohol as an essential item in the treatment of either typhus or enteric fever; and I have seldom given it, unless special circumstances in the case indicated to my mind the need of stimulation. Many typhoid cases, and even severe cases, have recovered under my care without having tasted a drop of alcohol. Many no doubt have had it; but the circumstances under which I have given it have been: The presence of extreme debility, indicated by a feeble heart and rapid pulse; the super-vention of typhoid symptoms; the occurrence of pulmonary complications, and the debility of prolonged convalescence. My friend, Dr. Ord, in an interesting paper on Enteric Fever, in the eighth volume of the St. Thomas's Hospital Reports, based upon sixty cases (of which twenty-four were my own) received into the hospital from the end of July, 1877, to the end of March, 1878, observes that "twenty-four patients received no stimulants at all; six only a small quantity during con-

valescence; eight not any till after the tenth day of admission; twenty-two received them within the first ten days of stay in the hospital, or while the fever was in activity; but very few indeed received them till after the end of the first week of illness." "The quantity of stimulants varied from a glass of wine or a glass of beer up to sixteen ounces of wine daily in one case, and eight ounces of brandy in another." Of these cases eight were fatal, the mortality being at the rate of 13.33 per cent. The remarks above made, while they tend on the one hand to show that alcohol is less valuable than many persons suppose in the treatment of fever, tend on the other hand to demonstrate that alcohol is not injurious in fevers. Indeed, I never recollect to have seen a case in which, even under physicians who have used it largely, alcohol has clearly acted injuriously. My main reason for withholding it has not been the fear of doing mischief, but simply because I have not thought it necessary; and, not finding it necessary, I have allowed economical considerations to weigh with me. I am satisfied that there are many occasions in enteric fever when alcoholic stimulants are of the greatest value; and that whoever then neglects to have recourse to them imperils his patient's life.

Progress in Electric Lighting.

A STRIKING illustration of the wonderful adaptation of means to ends in nature, and of human skill in research, is afforded in a discovery recently made, by which the electrical force is stored up for use when wanted. In the use of gas for purposes of lighting there must be a reservoir from which to draw a supply when the retorts are not in action, and hence the huge gas-holder is placed between the consumer and the works, and is a most important adjunct. If the consumer were supplied directly from the retorts, or, in other words, if the gas were consumed as fast as produced, the slightest disarrangement in the retorts would cut off the supply, and darkness would suddenly enshroud every dwelling.

In electric lighting, one of the great obstacles to success has been the want of some means of storing electricity, so that when the dynamo-machines ceased to ro-

tate the flow of the current could be maintained for at least a short space of time. If a belt slips, or a valve ceases to act in these machines during the hours in which lights are to be maintained, the incandescent carbons turn to blackness, and night instantly succeeds to the artificial day. Looking at the matter of storing electrical force as we store gas or water in the light of present scientific knowledge, the problem seems environed by difficulties impossible to overcome. It is easy to hold back gas or water, but electricity is a wild bull not to be kept in stall or pasture by any devices hitherto known to science; and yet the difficulty has been met successfully by M. Plante, a Frenchman, in the use of a secondary battery, which is placed between the dynamo-electric machine and the lamps.

This battery consists of plates of lead placed opposite each other, and very near together, though not touching. A Plante cell, in fact, consists simply of two pieces of sheet lead rolled up together and separated by the space of about one-eighth of an inch. It has been found if these two lead plates are for a time connected with a generator of electricity (no matter of what kind), one of the lead plates is changed on its surface, it becomes oxidized, and after undergoing this change, it is, when detached from the generator, in such condition as to be able to give out *at any future time* a current of electricity of its own. When the charge is expended, the plates are like an empty gasometer, in just the same condition they were before receiving the charge, and ready to be charged again. It is thus clear that if we place a series of these leaden cells in connection with a generator of electricity, the generator may be disconnected, and electricity will continue to flow so long as the supply lasts in the cells. Whilst this device does not at present quite meet the want, as a store of electricity on a large scale for practical electric lighting, it has in it the promise of meeting that want at no distant day.

The leaden cells have been charged or *filled* with the electrical force in the morning, and allowed to stand during an entire day, and at night the force had been utilized for all the purposes for which electricity can be used, thus showing that it can be held ready to be liberated when wanted. No discovery in any department of electric lighting is better calculated to inspire hopes of

success than this. It proves that the greatest obstacles can be overcome, that there are resources in nature fully adequate to all our wants, and that we must never despair at meeting impediments which seem to hedge up the pathway of progress in practical science. This discovery, when perfected, may be found to remove one of the great objections to electric lighting, as it points out a method of storing electricity as illuminating gas is stored for use in a gasometer.

Codeia in Dysmenorrhœa.

BY F. W. OLIVER, M. D., RAHWAY, N. J.

PERHAPS a brief review of a few cases in which I have found this hitherto neglected alkaloid of opium to have a most happy and beneficial effect would not be uninteresting to some of your readers. The expensiveness of the drug in the past has been to a great degree the cause of its very limited use. I was led to try it in the first instance, through the utter impossibility of my patient tolerating opium or morphia, and upon reading the flattering report of Dr. Aran, of Paris, in *American Journal of Medical Sciences*, in which he extols its efficacy in relieving pain and inducing sleep, without producing the usual unpleasant concomitants which attend upon dosing with opium and morphia, in disorders of the stomach, constipation, etc. I must say the flattering testimony of Dr. Aran has been fully realized by myself in the cases to which I refer.

Case 1.—I was consulted by the mother of a young lady of eighteen years, who, she stated, had suffered with painful menstruation for the past two years. The pain was so great that she neither got rest nor sleep during her periods. After putting her under a general medical treatment, I ordered opium to relieve the pain, but it disagreed with her sensitive stomach. Morphia was no better, although I used it hypodermically. It was then I decided on codeia, in one-fourth of a grain doses, and had the pleasure of seeing my patient perfectly relieved. Her pain disappeared, and a calm sleep was induced. From this happy result I decided to try it in another

case, where morphia had played a prominent role and had failed.

Case 2.—A lady, thirty-five years, unmarried, was subject to dysmenorrhœa to such an extent that she had to keep to her bed during four days of her catamenia. I ordered codeia, in one-fourth grain doses, morning and evening, with prompt relief.

Case 3.—Married lady, forty years old, complained of distressing pain during her catamenia. About two years ago she aborted at fourth month, and had suffered to greater or less extent, ever since, at her regular returns. Physical examination showed an ulcerated os and an anteфлекed womb. While treating the last two affections, I administered codeia to relieve her pains, with the same unfailling and pleasant result. Encouraged by these experiences I prescribe it in a case of mania-a-potu, and in twenty minutes my patient was calmed, and upon the repetition of the dose he fell asleep.

Again, in a case of great nervous exhaustion, in a gentleman who had to take twenty grains of hydrate of chloral, with one drachm of bromide of potassium, in order to obtain an hour's sleep, I ordered one-fourth of a grain of codeia, to be repeated in twenty minutes, and for the first time in two months that gentleman enjoyed four hours of unbroken sleep. I have used it also in the distressing headache that accompanies malarial fever, and always with the most flattering results.

Cæsarean Section with Removal of Uterus and Ovaries, Successfully Performed After the Porro- Muller Method.

DR. ELLIOTT RICHARDSON, of Philadelphia, reports (*Amer. Jour. Med. Sci.*, January, 1881, p. 36) *Med. Times*, the following case, which is of great interest as being the first operation of the kind performed by an English-speaking surgeon. The patient was a dwarf, twenty-five years of age, forty-six inches in height, and weighing eighty-five pounds. It was thought best to select a time for the operation about two weeks anterior to the supposed period for labor to begin, in order to permit ample preparation and to avoid the exhaustion incident to labor. It was thought, too, that the presence of a well-

defined cervix would make easier the application of the retaining ligature at the time of operation. Dr. Richardson avoided giving the preliminary purgative customary in such cases, believing that the disturbed condition of the bowels, or, if opium were subsequently given, the meteorism which would result, would be unfavorable.

The operation, which was performed on the 22d of September, 1880, was begun by an incision in the median line of the abdomen, extending from a point about one and a half inches above the symphysis pubis to a point about four inches above the umbilicus. The incision was about ten inches in length, and was made so exactly in the median line of the abdomen that not more than a teaspoonful of blood was lost from this part of the operation. No hæmostatic was used, and no ligature had to be applied. The abdominal cavity being opened, the uterus could be seen and was drawn out, the abdominal walls being closed immediately and a piece of carbolized flannel wrapped around the base of the uterus. The loop of an ecraseur being thrown over the uterus, was tightened at a point a little below the os internum. The uterus was then rapidly opened, the placenta being found directly on the anterior wall, the incision going through it. It was detached, and it and the entire ovum were turned around within the uterine cavity, the membranes ruptured, and the child extracted, followed by the entire removal of the after-birth. Two stout steel pins, about five inches in length and the size of a No. 8 French bougie, were then introduced through the cervix, one passing below, and the other above the wire of the ecraseur, and diagonally to the line of the abdominal wound. A piece of stout silk cord, previously soaked in carbolized oil, was tied tightly around the cervix between the two pins, exactly in the line of the temporary wire loop, which latter was removed as soon as the permanent ligature was applied, but before it was finally fastened. The silk ligature was wrapped twice around the cervix, and then tied.

The uterus and ovaries were now cut off with scissors at a point about three-quarters of an inch above the ligature, and the stump placed at the lower angle of the abdominal wound. Careful sponging of the cul-de-sac of Douglas with carbolized sponges removed a very small

quantity of bloody serum. The abdominal wound was then closed by twelve interrupted silver sutures, four superficial and the remainder deep, inclosing about half an inch of the peritoneum on each side. During the introduction of the deep stiches a flat sponge was placed in the abdominal cavity beneath the flaps to catch and absorb any drops of blood which might escape from the wounds made by the needle.

The wound being closed and the stitches supported by long strips of adhesive plaster, pure liquid carbolic acid was applied carefully to every part of the stump outside of the ligature, plates of lead placed under the pins to prevent undue pressure, and Lister's carbolized gauze applied to the whole extent of the wound and to the exposed stump. This was completely covered with carbolized Mackintosh, and the whole kept in place by a flannel binder. No drainage-tube was introduced. The patient was immediately placed in bed, and a hypodermic injection of a quarter of a grain of sulphate of morphia administered. The operation alone occupied forty-five minutes; including anæsthetization and dressing, the entire duration was an hour and a quarter. Lister's anti-septic method was fully carried out.

The history of the case after operation was most satisfactory. For the first ten days the patient's temperature only once rose to 100.4° . On the eleventh day a mild attack of phlegmasia dolens supervened, and the temperature for the three nights succeeding reached 100.6° ; convalescence then went on without further interruption. The abdominal wound united by the first intention. The pedicle came away on the eleventh day. The function of the bladder was not at all interfered with. The infant, a vigorous male of five and a half pounds weight, is at present living, and well, as also is the mother, three months after operation. Dr. Richardson says, with regard to the effects of the operation, "I have rarely seen less discomfort in a lying-in woman after normal labor."

The advantage of the Muller modification of Porro's method is that it is clean, safe, and easy to perform; not a drop of blood need enter the abdominal cavity. Dr. Richardson attributes his success to the fact that a time was fixed before the period of labor when his eight assistants could be summoned without haste and with due

preparation, including the avoidance of contact with contagious disease for two days previous, also to the careful attention to minute details, antiseptic precautions, etc.

When Obstetrical Forceps are to be Used.

BY A. J. HOWE, M. D.

HAVING used obstetrical forceps to facilitate delivery four times during the past year, and on an average twice a year for the past fifteen years, I feel competent to say something about the occasion for their use, and the manner of using them.

The report of a case that recently passed through my hands will explain some obstetrical methods which are sound. Dr. B. dashed into my office and said: "Doctor, where can you be found at any hour between this and morning. I have a primipara, thirty-five years old, in preliminary labor. Patient is fat, perineum is thick and firm, os uteri is too small for the finger to enter, and child's head is large and hard. I know the delivery will be instrumental, sooner or later." At nine o'clock in the evening he came again and said that the woman was having active labor throes every five minutes, but the os uteri closed at each labor pain, and no progress was being made. I told him to obtain extract of belladonna, chloroform, Squibb's ergot, and obstetric forceps, and to return to his case, and to use the belladonna on uterine cervix; to give five to ten-drop doses of the fluid extract of ergot every ten minutes to see how much the womb could be stimulated to do, and if nothing was accomplished by midnight, to employ chloroform and forceps. Before one o'clock in the morning a messenger came for me to assist the doctor. Upon examining the patient and hearing the lack of progress in the case, I advised the use of the forceps as early as practicable.

The os uteri was not larger than a half dollar, and not very dilatable, but after chloroform had been administered, I introduced the first blade with ease, and in less than five minutes. This half of the instrument occupied so much of the os, and pulled it so much to one side, that it was difficult to make the second blade enter the uterine cavity. I used two fingers in the os to dilate it and to

make room for the introduction of the entering forcep. After working at least fifteen minutes, I succeeded in sliding the blade deep into the uterus, the steel following along on the child's head till it was about in position. By depressing both handles, and carrying the blades a little deeper, the handles assumed the relation to one another that favored a "lock." After the locking and fastening by a few turns of the screw pivot, the handles were ready for a strong grasp and a powerful pull. The forceps were of the Hodge's pattern, long and strong; but with all the force my hands could exert on those levers and compressors, the child's head could only be moved slowly. The doctor exchanged duties with me, he working at the forceps while I administered chloroform and helped hold the patient on the bed. As I returned to the handles of the instrument with renewed strength, it required the combined force of three individuals to keep the patient from being dragged off the bed. The handles were made to swing to the right and left as traction was made, in order to free any lodging point.

After more than a half hour's steady work the child's head passed the perineum. The forceps were then thrown aside, and the remainder of the delivery was made with the unaided hands. For a half minute the child was limp and still, but a slap of the thorax with the hand provoked inspiration, and soon the welcome cry was heard. The mother and child did well, no untoward symptom intervening. Without those forceps, the child could not have been born, and the mother would have died.

The Hodge's forceps are the best, all points being considered. They never break nor lose their hold when rightly applied; and the length of leverage their long handles give, is a valuable aid in hard labors.

If the bladder be empty when forceps are used, no vesico-vaginal fistula will be provoked by the force applied.—*American Medical Journal*, St. Louis, Jan., 1881.

Opium in China.

(Condensed by A. G. K., from "Le Moniteur des Prof. Chimiques.")

CHINA, which consumes such vast quantities of opium, and which since the war with England in 1840 (which was known under the name of the Opium War), has obtained

this drug solely from India, has now commenced the cultivation of a native opium, which threatens to interfere seriously with the Indian product; therefore the British Government in India and English commerce struggle vigorously against the introduction of poppy culture into the Celestial Empire.

The exportation of Bengal opium into China is in the neighborhood of 43,000 cases, giving the Government a clear profit of \$21,500,000. It is easy to picture the alarm of commerce and the English Government, which sees in the native opium of China a formidable rival to the Indian article.

Indian opium comprises three varieties: The Malwa, Patna and Benares. The Indian Government has favored in every way the cultivation of the poppy; thus they make advances of land to farmers who live by this culture; but in return they require that the opium thus raised shall be sold them at a fixed price. The prepared opium, placed in balls, is packed in cases, each containing forty balls. Each case is sold to the Government at 400 rupees (\$200); the selling price being generally 1,300 rupees (\$700), there remains to the Government a net profit of \$500 per case.

The climate of China is eminently favorable to the culture of the poppy; thus this culture has made such progress, that in the single province of Yunnan, the poppy-fields twice exceed the whole residue of cultivated ground.

The consumption of opium has increased considerably, and though the native opium has neither the force or fragrance of the Indian opium, as it is cheaper, its sale increases every day.

In the presence of this tendency to procure cheap opium, shall we conclude that China, furnishing herself enough opium for home consumption, will demand from India, in future, merely a choice opium as an article of luxury?

It is a question full of uncertainty. We can not, however, refrain from inquiring whether a better use could not be made of the grounds now devoted to poppy culture. The rich and fertile provinces of the English colonies lend themselves admirably to all kinds of cultivation.

The British Government and commerce will find in the new productions of the colonial soil a large compensation, if not an equivalent, for the opium product; and

thus will disappear the accusation against the English nation of drawing a large part of its income from a drug destined to debase the Chinese people.

Pathological Society of Philadelphia.

THURSDAY EVENING, JANUARY 13, 1881.

Sarcoma of testicle. Exhibited by Dr. H. F. FORMAD.

THIS tumor was removed from a young man by Prof. Agnew, in the surgical clinic of the University Hospital, in October last. I failed to obtain a complete history of the case, and learned only the following from the gentlemen of Dr. Agnew's clinical service: The patient was about seventeen years of age, and in apparent good health. The tumor developed within one year, slowly at first, but later growing more rapidly, reaching, at the time of the operation, the size of a large fist. At no time was there any pain; and the only inconvenience experienced by the patient was from the weight and the size of the tumor. The skin was not involved.

On examination, after removal, the tumor showed itself to be developed from the tissue of the left tunica vaginalis testis; the structure of the testicle was not at all involved, but the whole testicle of that side was simply pushed up into the upper part of the sac, and was much atrophied. The tumor had a thin capsule, was elastically hard in consistence, and on section presented a white fibrillated appearance. Microscopical examination revealed the typical structure of large-celled spindle-celled sarcoma.

Dr. S. W. Gross thought that in this particular instance the tumor had started in the connective tissue between the dartos and tunica vaginalis testis. Sarcoma may arise from the connective tissue of any part, but he considered that the site of the present one was unusual. He also related a case seen by Prof. Gross, presenting the following history: The gentleman had been operated upon in Kentucky for a sarcomatous growth, as was then thought, connected with the testicle, which organ, he stated, had been removed at the operation. Upon careful examination, Prof. Gross determined that the recurrent growth for which he had been consulted was in reality a diseased testis. The former operator had doubtless removed a

growth like the present one, which resembled in form a tumor of the testis, and which probably sprang from the connective tissue. Prof. Gross, in operating for the recurrent growth, tied the cord, thus demonstrating the presence of the gland. The wound healed slowly, recurrence took place, despite the use of the actual cautery, etc., and death finally ensued.

Dr. H. F. Formad had had no opportunities of observing patients affected with sarcoma of the testis, but it could not be a very rare disease, since he had had sent to him for examination, in the past few years, no less than nine specimens. Of these, two sprang from the connective tissue; four were of the round-celled variety, and were associated with more or less cartilage; two consisted of ordinary spindle-cells, while one was of the large spindle-celled variety. One of the specimens seemed to have had its origin in an inflammation set up by the injection of iodine into a tumor of the testis. Dr. C. T. Hunter had been consulted some few months subsequent to this, when he found that a number of large nodular growths had formed, which induced him to castrate the man. Microscopically these masses were seen to be sarcomatous, while the bulk of the tumor consisted merely of new inflammatory tissue. In this case, thirteen months after the operation, the glands of the neck became involved. In another case, where he had been requested to examine, *post-mortem*, the supposed tuberculous testis of a man dead from phthisis, he had, to his surprise, found that the organ was affected with sarcoma.

Dr. S. W. Gross asked Dr. Formad whether in his examinations of the round-celled variety he had ever found any traces of gland-structure.

Dr. Formad replied that he had in one case.

Dr. J. H. Brinton recalled the case of a prominent gentlemen of this city upon whom he had operated some three or four years back for sarcoma of the testis. The wound healed readily, but in nine or ten weeks the retroperitoneal glands became involved, a little later those of the neck, and death rapidly occurred.

Sarcoma of testicle. Exhibited by Dr. J. H. Brinton.

J. L., æt. forty years, a farmer by occupation, came under my care in May, 1880. He asserted that the enlargement of his testicle had commenced three years pre-

viously. No history of traumatism or other exciting cause could be ascertained. Castration was performed May 5, 1880, and the patient died of pyæmia June 1, 1880.

A microscopic examination by Dr. S. W. Gross showed that the tumor consisted of large spindle-cells, with here and there a fibrillated intercellular substance. The seminal tubules were dilated, deformed, and lined with columnar epithelium.

Dr. S. W. Gross then read a paper, accompanied by the specimens upon "Two Cases of Round-Celled Sarcoma of the Testicle, with Local Recurrence and Secondary Deposits after Castration."

Case I.—A laborer, thirty-five years of age, was sent to me on the 8th of June, 1880, by Dr. T. W. Taylor, of Kennett Square, on account of a smooth and uniform enlargement of the right testis, which was of the size of a large cocoanut, of an elastic, and here and there pseudo-fluctuating consistence, and the seat of occasional pain. About three years and a half previously the testis became greatly swollen from the man being jammed between the wheels of a wagon; but the inflammation gradually subsided, leaving, however, the organ about double the size of its fellow. Fifteen months ago it began to increase, until it finally attained the volume above mentioned. After castration the albuginea was seen to be pervaded by immense tortuous veins; but that tunic was not thickened, nor was the cord involved. Section was attended with the escape of a dirty yellowish fluid, and the cut surfaces were of a translucent greyish tint, and mottled by large areas of blood-stained broken-down tissue, and by small spots of caseous degeneration, and they also contained a few cysts. The entire upper portion of the tumor was converted into a cheesy mass as large as a billiard-ball. Microscopical examination disclosed a small round-celled tissue, the intercellular substance of which was granular. There was no trace of seminal tubules.

At the expiration of three months the man began to complain of pain in the belly, and soon afterward Dr. Taylor discovered a tumor as large as an orange just below and to the right of the umbilicus. The suffering soon became severe and constant; temporary paralysis and œdema of the lower extremities ensued; the bowels could only be moved by purgatives; and nausea and

vomiting, which came on every afternoon, continued throughout the night, unless he was fully under the influence of morphia. When I saw him, on December 4, the symptoms had not abated. He was growing thin, had no appetite, and his face was becoming icterode. A small recurrent growth occupied the scrotum. The abdominal tumor, which I was informed had doubled in size in the last ten days, was as large as a child's head, filling the right lumbar and nearly the entire umbilical region, and had an elastic feel. Exploration of the chest disclosed the physical signs of secondary deposits in the upper lobe of the right lung. Death ensued on the 20th of December, but an examination of the body was refused.

Case II.—A farmer, thirty-three years of age, consulted Prof. W. H. Pancoast on account of a tumor of the right testis, which he said was of four years' duration and had developed in consequence of a blow received in climbing a fence. Its consistence was elastic, its outline smooth and pyriform, and its volume equaled that of a small cocoanut.

The organ was removed in the usual way on the 24th of February, 1880. The cut surface had a medullary aspect, and the minute structure was that of a granulation sarcoma, with entire disappearance of the seminal tubules.

The wound closed promptly, but in two months there was recurrence in the stump of the cord. Early in September the growth had attained the size of a fist, when Dr. Pancoast removed it by laying open the inguinal canal and ligating the cord at the internal ring. The wound healed in four weeks, but on his return to the hospital of the Jefferson Medical College, October 22, it was found to have opened, and there was a fungous mass in the groin as large as an orange, which was scraped away, and the parts freely touched with chloride of zinc. Shortly afterward a tolerably firm and painful tumor was detected in the retroperitoneal glands of the corresponding side, on which account nothing further was done in the way of surgical interference. At the date of his discharge, December 1, the abdominal tumor was as large as a child's head, and the glands of the left supraclavicular fossa were as big as an egg. The man was decidedly anæmic, and he had been suffering for several weeks from gastralgia,

loss of appetite, and almost constant nausea and vomiting.

Remarks.—These cases which have been presented to the Society this evening possess many characters in common, and two, namely, that of Dr. Pancoast and my own, are especially interesting as being examples of reproduction of the disease in the abdominal lymphatic glands and of local recurrence shortly after operation.

Implication of the glands is a remarkable feature in connection with sarcoma of the testis when considered in relation to the immunity of the glands in sarcoma of other organs. In sarcoma of the breast, for example, as I have pointed out in my "Treatise on Tumors of the Mammary Gland," involvement of the axillary glands is not met with during life, nor does *post-mortem* inspection disclose that the deep glands are converted into metastatic tumors. In the disease under consideration, on the other hand, secondary glandular growths are more common than they are in carcinoma of the testis, so that they afford no aid in the differential diagnosis, as is the case in carcinoma and sarcoma of other organs. From an examination of forty examples of sarcoma of the testis which I have collected from various sources, I find that the histories are complete in twenty-six. Of these, three were well after castration for an average period of six years, two being free from recurrence for two years, and one for fourteen years. Three pursued a natural course, and *post-mortem* inspection showed secondary tumors in the lumbar glands, bones, and subcutaneous tissue in one, and visceral tumors, without glandular enlargement, in two. Twenty were castrated; of these, one—the case of Pancoast—is still living, with local recurrence and enlargement of the lumbar and supraclavicular glands, and nineteen are dead, with glandular implication and visceral deposits, especially in the lungs and osseous system, in sixteen. Hence, of the twenty-six cases, in eighteen, or sixty-nine per cent., the retroperitoneal glands were the seat of secondary deposits; and I find that they are involved in sixty-two per cent. of the examples of carcinoma. In several of the cases the absence of glandular affection may be explained, as is pointed out by Mr. Butlin in a valuable paper on the subject in the *Lancet*, August 28, 1880, by the short duration of the disease.

The great frequency of the development of secondary

growths in the retroperitoneal glands into which the lymphatics of the testis empty, tends to show that sarcoma originates from the endothelial cells of the large lymph spaces which surround the seminal tubules, rather than from the membrana propria of the tubules.

Local reproduction in the stump of the cord or in the adjacent tissues, which constitutes the second interesting feature of the disease, is so uncommon that it was met with in only five of the twenty-three cases in which the histories are complete after operation.

As specimens of sarcoma of the testis have been so rarely exhibited to the Society, I take this occasion to analyze still further the cases which I have collated and to compare them with those of carcinoma. Seventy-five per cent. of all examples of sarcoma occur before the forty-first year, and twenty-five per cent. before the eleventh year, three having been observed respectively at eight, ten and eleven months. Fifty-six per cent. of all cases of carcinoma are met with before the age of forty-one, and six per cent. before the age of eleven. In sarcoma the epididymis is more early implicated, its growth is more rapid, and its volume is greater; the scrotum is not adherent, and it ulcerates in only three per cent. of all instances; and the cord is involved in the disease in thirty-five per cent. In carcinoma the scrotum is adherent in thirty-six per cent., and ulcerated in nine per cent. of all examples, and the cord is implicated in sixty-three per cent. of all specimens. In sarcoma the tunica albuginea is rarely thickened, while that occurrence is the rule in carcinoma. In the former affection both testes are not uncommonly affected, while one alone is involved in the latter disease. Finally, the presence of cartilage is so frequent in sarcoma, and so rare in carcinoma, that it goes far to establish the diagnosis.

Of the forty cases, twenty-two were of the round-celled, fifteen of the spindle-celled, and three of the mixed variety.

The prognosis of sarcoma is eminently unfavorable. Thus, of the three cases which pursued a natural course, the average duration of life was less than ten months. Of twenty-three patients subjected to operation, three were living at the date of the last reports for an average period of six years (and, strange to say, they belonged to the round-celled variety), one was still alive with local

and general reproduction, and nineteen died of generalization of the disease, their average life having been twenty-seven months. Hence castration not only prolongs life, but may effect a cure. The total duration of life, from the first observation of the disease until its termination after operation, averaged eighteen months for the round-celled, and twenty-eight months for the spindle-celled variety; and the former was followed by metastatic tumors in eighteen per cent. more of instances than was the latter.

The Treatment of Nævus.

DR. RICHARD BLIGH writes to the editor of the *British Medical Journal*: I am perfectly certain that the ligature is very rarely necessary, and that a very old remedy—the liquor plumbi subacetatis—is far more to be relied on than anything else for destroying nævi of various kinds. I have always found that, after it has been applied regularly for about four months, once a day (if used oftener it will give rise to ulceration), the nævus becomes dotted over with white spots, which gradually coalesce till the nævus disappears. This it will do, without fail, in the course of one or even two years, according to size. I had an illustrative case about three years since. A child about four years old had a nævus on the temple about the size of a two-shilling piece, with two or three smaller ones adjoining. It was daily becoming larger and more prominent. The liquor plumbi soon stopped its growth; in a few months there was a very visible improvement, and for some time now all traces of it have disappeared. Some years ago, when I was practicing in New South Wales, a child was brought to me with a subcutaneous nævus on the forehead, extending into the orbit. It felt exactly like a large coil of worms. The mother said it was increasing; that she had been to several doctors in Sydney, who told her they could do nothing for the child. I gave her some of my remedy, with strict injunctions how to use it, but fearing it would not be of any use. I never expected to see the case again, as the woman was traveling up country, and was greatly pleased when she brought me the child about a year afterward without a trace of the disease. These two cases are

quite sufficient to show the action of the remedy, and they did not admit of treatment by ligature. But even where the ligature is admissible and the cure certain in much less time, it must always leave a scar; and in the case of children, at any rate so long as a cure is certain, time is surely of little consequence. The application of the liquid plumbi is attended with no pain and leaves no scar, unless applied too frequently, when I have more than once known it to cause a nasty sore.—*Medical Bulletin*.

MICROSCOPY.

Royal Microscopical Society.

MR. SCHADBOLT read his paper on "The Apertures of Microscope Objectives," from which we extract the more salient points:

"I presume no one will be found hardy enough to contend that the *total amount of light* emitted from a radiant point under a given fixed illumination would be greater if the said radiant point were in oil or any other dense transparent medium, than if it were in air. In point of fact, we may regard this total amount of radiant light as a fixed quantity while the illumination of the object remains unaltered.

"*Quotation A.*—It is quite possible that I may have to some extent misapprehended the note at p. 875, seeing that those who employ the term 'numerical aperture' have never, that I am aware, condescended to explain in definite terms what they mean by it. In point of fact, I deny its existence altogether as 'aperture,' which term means 'opening,' and nothing else. The term aperture may be fitly applied in two ways, viz.: by quoting its actual size, or by quoting the angular pencil of light which it allows to pass through it: the '*angular aperture*' of a lens, whether dry or immersion, is just the measure of the pencil of light which it will bring to a focus, with or without the aid of other lenses behind it; it is therefore evident, as shown in my previous note, that no lens can really have an aperture of 180° .

"The absolute aperture of a lens—say half an inch—one-tenth of an inch—one-hundredth of an inch—gives no measure of the proportion of a pencil of rays from a radiant point that it will allow to pass through, without at the same time its focal distance is quoted; on the contrary, if its '*angular aperture*' be quoted it gives a very exact idea of the proportion. The accurate measurement of that aperture may be a difficult matter; but easy or difficult, that does not affect the question at issue. Thus a microscope objective, with a *half-inch* aperture, may, and generally does, admit a smaller angular pencil of rays than one of a *tenth of an inch*; in fact, it all depends upon the distance of the said apertures from the radiant point. Now, with an angular pencil of 180° , there is no question of distance of the aperture from the object; it must be absolutely in the same plane with the object, and no question about its size, so that it includes the radiant point. The words '*angular aperture*,' therefore, convey a correct and definite idea of the pencil of rays admitted; the words 'numerical aperture' convey no such meaning, nor, indeed, to my mind, any meaning at all. If the '*angular aperture*' of a lens be correctly gauged, it forms a very exact measure

of the proportion of the radiant pencil of (say) 180° that the said lens will admit, and I am, therefore, constrained to meet with a very decided negative in the statement in quotation B relative to this point. Angular aperture means now just as much and just as little as it ever did.

"Of course mere aperture is not a fair measure of comparison between two or more lenses any more than mere achromatism, or mere correction for spherical aberration; but *ceteris paribus*, it is a very important element in the comparison, and 'angular aperture,' as above defined, has exactly the same value whether in a dry or an immersion lens, neither more nor less.

"Mr. Wilson says 'the original note' and my letter relate to *two distinct matters*, as if they were in no way comparable with one another—such, for instance, as the time of day with the length of a man's nose. Well, I don't object, only why do Mr. Wilson and others constantly persist in comparing the 'angular aperture' of an impossible lens with this mysterious 'numerical aperture,' of which we have no definition?

"If it were possible practically to employ an angular aperture of 180° in lenses, whether dry or immersion, the *whole* of the rays emitted from a radiant point would be admitted by both lenses if the object under inspection were immersed in air, and by the immersion lens, in a suitable liquid, if the object were mounted in balsam; it is, therefore, simply absurd to talk about an 'aperture' which admits *more than the whole* of that which has to be admitted.

"To speak of a lens of 180° angular aperture in air (or anything else) admitting only a pencil of $81^\circ 58'$ is a contradiction. A lens that will only admit such a pencil is a lens of only that angular aperture.

"If a dry lens be employed on a balsam-mounted object, a portion of the radiant pencil is turned back by total reflection at the air-surface of the covering-glass, when the incidence of the rays exceeds the 'critical angle,' so that only a pencil of not exceeding $80^\circ 58'$ can escape from out of the mounting of the object to fall upon the front of the dry lens; but that does not affect the capacity of the lens, which is merely placed in circumstances wherein its full powers can not have play.

"It may be, and is, a very good reason for using an immersion lens instead of a dry one, but it is monstrous to assert that the latter has an 'aperture' exceeding that of 180° in air. The object is the thing at fault, and not the lens; the object has been placed in a condition which prevents more than a pencil of $81^\circ 58'$ emanating from it.

"It follows, also, that the 'numerical aperturists,' if I may coin such a phrase, have fallen into another error about this matter. It has been assumed by them that the difference between the pencils of light admitted respectively by the dry and immersion lenses from a balsam-mounted object, bears a direct proportion between the refractive indices of air and the fluid used for immersion; but this is *not the case*, for it is evident from a consideration of the preceding facts detailed, that the difference can only be that between twice the critical angle and the largest immersion angular aperture of the lens in use, the critical angle being a constant quantity in any given medium in contact with air, so that in the case of immersion lenses having an angular aperture of less than $81^\circ 58'$ there would be no difference at all.

"I am far from undervaluing the advantages of immersion lenses. In certain cases they are invaluable; the working distance in front of the lens is greater (an important consideration with very high powers), the refraction by the front lens being effected entirely or chiefly at its back surface; and Mr. Stephenson has pointed out how the immersion lens can be profitably adapted so as to avoid the necessity for correction for the varying thicknesses of the glass covering the object. The only drawback that occurs to me in their use, is the necessity of interposing a film of suitable

fluid; but I have yet to learn that immersion lenses can be constructed to include a larger angular pencil of light than can be included by a dry lens."

Mr. Shadbolt then brought forward what he conceived to be a demonstration of the fallacy of "the supposed limit" of twice the critical angle for a dry lens, using for his illustration a diagram of Prof. Stokes's, from Vol. I. of the *Journal Royal Microscopical Society*. [The demonstration was oddly enough confined to a pencil *within the front lens* of less than 82° , so that by a *non-sequitur* which can only be characterized as incomprehensible, Mr. Shadbolt was trying to prove the non-existence of the limit by citing as an example a case illustrating the existence of the limit.]

He stated that "the thickness of the lens for a dry objective can be varied to a great extent to suit the exigencies of construction without loss of aperture, *because the front surface performs a very large part of the refraction, while in the immersion lens the back surface of the front lens alone is effective*;"* but in any case there must be more 'working distance' available with an immersion lens than with a dry one, hence one of its most important advantages.

"I have now demonstrated beyond dispute the following facts, viz.:

"That a dry lens can have as large an 'angular aperture' as an immersion one, and that the assumed difference of aperture between dry and immersion lenses does not exist;

"That no lens can have an 'aperture' of any kind which exceeds that of 180° angular in air; and

"That consequently the table of 'numerical apertures,' published on the cover of the *Journal*, is erroneous and misleading, and should at once be discontinued."

Mr. S. stated that since writing the preceding he had had occasion to refer to the number of the *Journal*, for December, vol. ii. No. 7, and while turning over the leaves I to-day (January 3, 1881), stumbled over the original communication of our Treasurer, Mr. Stephenson, which appears to throw some light on the so-called "numerical aperture." The article to which I allude appears at p. 839. . . . Of course, if it amuses anybody to adopt the views set forth because they may seem to glorify the objectives they possess by crediting them with excessive apertures, I see no reason against their indulging in a harmless eccentricity for their own satisfaction; but this does not alter the facts; and if they try to force others who understand perfectly that no "aperture," call it by what name you will, can possibly admit more than the whole of the emitted rays, they should not be surprised to find their assertions met with some not ill-natured railery.

Mr. Crisp in the first place pointed out how ill-timed Mr. Shadbolt's railery was, for he had completely overlooked not merely older papers, but that of Prof. Abbe himself in the current volume of the *Journal*, which gave the very definition which Mr. Shadbolt complained had not been given, and for the want of which he had railed against "numerical aperturists." The reluctance of the Council to accept the paper, only overcome by Mr. S.'s persistence, and his suggestion that a desire existed to suppress his views and stifle discussion upon them, was also referred to, and Mr. Crisp, after clearing away the points which Mr. Shadbolt supposed some one had disputed (such as that 180° is the maximum *angular* aperture), then dealt with the fundamental fallacy of Mr. Shadbolt's paper, viz.: the supposition that equal angles (or pencils) in different media (as air and oil) are optically

*We can only regard this statement as one of the most absurd blunders in optics that we have met with; indeed, capped as it appears to have been in the subsequent discussion by Dr. Edmunds, who seems to have gratuitously thrust his ignorance of the whole subject into public notice, we can only express our regret that Fellows of the Royal Microscopical Society should have made such a lamentable exhibition of themselves.—[Ed. C. M. N.]

equivalent, showing by reference to appropriate figures, that (1) although the *angle* (at the object) was much larger in the air than it is when the object is mounted in balsam, yet that the two angles were in reality *optically equivalent*; (2) that in the same way the 180° of a *dry* lens was the optical equivalent of the 82° of the *immersion* lens; and (3) that an angle in balsam greater than 82° *exceeds* in optical effect the maximum air angle—the whole hemisphere—of 180° , so that 180° of radiation in air was less than that of 180° in water or oil.

"It was the want of appreciation of this fact that lay at the root of the whole of the errors into which Mr. Shadbolt had fallen. His fundamental idea was that the *angle* was alone to be regarded; that the refractive index need not be taken into account; that equal angles must represent optical equality whether in air or oil. Hence he regards the table on the cover of the Journal as 'misleading' inasmuch as it shows 180° in oil and water to be something *more* than 180° in air (which he treated as the whole beyond which there could be nothing more); he supposes that it must therefore be intended to maintain that there can be an *angle* in excess of 180° ; and he considers he has shown that no lens can have an aperture of any kind 'exceeding that of 180° angular in air.'

"When it is recognized, however, that the 180° radiating in air is not the whole, but falls far short of 180° in oil, all the seeming absurdities vanish.

"Fig. 34 represents the first position, as defined by Mr. Shadbolt in his original note—a pencil of 170° radiating from an uncovered object in *air*.

"Fig. 35 represents the second position, the object in *balsam*, with a cover glass, the pencil at the object being only 80° * (though expanding to 170° in air).

"Now, if it is not recognized that the smaller angle of 80° in balsam of Fig. 35 is the exact optical equivalent of the larger angle of 170° in air of Fig. 34, it is easy to fall into Mr. Shadbolt's error and to look at the matter thus: In order to make the angle at the object in Fig. 35 equivalent *as an angle* to that of Fig. 34 (so that, as it is supposed, the *same thing* may be discussed in both cases!), a pencil of 170° in *balsam* is taken as radiating from the object, as shown by the dotted lines. All of this pencil in excess of 82° (twice the critical angle) is reflected back from the cover-glass when a dry objective is used, but admitted with an immersion glass, and so follows inevitably the supposition that the value of an immersion lens is simply that it 'obliterates the critical angle for glass,' and so on.

"When once it is recognized, however, that the large *air* angle of Fig. 34 and the small *balsam* angle of Fig. 35 are optically equivalent, the whole difficulty vanishes. It is seen that there is no reduction of aperture with balsam-mounted objects (as was so long contended), and that in dealing with the balsam pencil of 170° in Fig. 35, we have been dealing with one not merely equivalent to, but *very largely exceeding* the air pencil 170° in Fig. 34.

"With a pencil in balsam of 82° , the dry lens takes up all that it is capable of taking up—that pencil is the equivalent of the 180° in air—for the dry lens, that is *its whole*; for it there can be no more than that whole. But the immersion lens of wide angle (*i. e.*, exceeding 82° 'balsam angle') takes up a pencil largely in excess of the 82° which was the '*whole*' of the dry lens—and its superior performance is seen to be wholly inadequately accounted for by the explanation given by Mr. Shadbolt.

"Mr. Shadbolt had said that, with a dry lens acting on a balsam-mounted object, '*the object is the thing at fault, and not the lens; the object has been placed in a condition which presents more than a pencil of $81^\circ 58'$ emanating*

*This should strictly be slightly more to represent exactly the 170° in air. The figures have been omitted unavoidably, but can be easily imagined.

from it,' so that according to his view an immersion lens is superior to a dry lens only in the case of the latter being used with balsam-mounted objects.

"The same figures illustrate this case. So far from the dry lens being 'placed in circumstances where its full powers can not have play,' its powers have the fullest play, and in the second case, quite as much as in the first, it receives its *whole*—the whole 180° of the radiation in air. As a dry lens it can not utilize more.

"So far, therefore, from Mr. Shadbolt having 'demonstrated beyond dispute the incorrectness of the modern doctrine of aperture,' he has given no demonstration that touches the question. Nor can he or any one else ever succeed in doing so. It is as much a hopeless task—a demonstrable impossibility—as that of squaring the circle itself, whether looked at from a strictly mathematical or experimental point of view.

"The most striking of these is the application of an immersion lens, with balsam angle exceeding 82° , to a dry-mounted and a balsam-mounted object successively. In the former case the lens acts as a dry lens of an aperture infinitely near 180° , and a bright circle is seen at the back of the objective having a diameter *less* than that of the posterior lens. With the balsam-mounted object the *whole* diameter of the back lens becomes brightly illuminated, and the surplus aperture of the objective in excess of 180° in air is manifest. If the difference between the diameters of the two bright circles is measured, it will be found to agree with that which should exist on theory.

"It has been the increased diameter of the back lens—so striking a feature in immersion objectives—that more than anything else has brought practical opticians in England to agree that there must be an actual increase in the 'aperture' or 'opening' of this class of objectives.

"With regard to Mr. Shadbolt's Fig. 33, Mr. Crisp pointed out that he could not have worked out the effect of the diagram, or he would have seen that he had established the very proposition which he had designed the diagram to disapprove; for that, when worked out, it is found that the Stokes objective and the Shadbolt objective magnify in the proportion of 7 to 5 approximately, so that the latter is a *lower power with the same back combination*, and therefore a *lower aperture*, the actual figures being 51° instead of 66° , as given by Mr. Shadbolt.

"Turning then to numerical aperture, Mr. Crisp pointed out that aperture is only correctly defined when the *various refractive indices of the media* are taken into account as one of the factors, and, further, as two objectives with the *same medium* can not be compared by the degrees, it is readily seen that the sine and not the number of the degrees must be the other factor, and the complete formula becomes $n \sin w = a$ where n is the refractive index of the medium, w is the sine of half the angle, and a the numerical aperture. Angular aperture was an insufficient when only dry objectives existed, and it has continued to be used since the introduction of water and oil-immersion objectives simply from force of habit. If, however, all three classes of objectives had always co-existed, is it conceivable that any one would have originated a notation *which denoted things as the same when they were different* (60° in air and 60° in oil), and *different when they were the same* (180° in air and 82° in oil)?

"The advantage of the expression of *numerical* over *angular* aperture are:

"1st. *It introduces an absolute measure of aperture, the unity of which is based on a fundamental phenomenon.* This is the radiation of a luminous point in a medium of the refractive index=1, the rays in which are embraced by an entire hemisphere. The capacity of an objective for collect-

ing the total hemisphere in air is the unit of aperture with which, by the value of a , every individual aperture may be compared.

"2d. It is the only one which affords a correct idea of the true relation of different apertures in the same medium; whilst, on the contrary, the angles inevitably lead to a false conception of this relation.

"3d. It is the only way in which apertures pertaining to different working media can be compared. A comparison by the angles is simply impossible unless by reducing them to a common medium, which (as in the "balsam-angle" of a dry objective) has no actual connection with the intended action of the lens. The definition of a reveals at once the unequal equivalence of equal angles in different media. The aperture indicated by an angle say of 120° in a medium like balsam or crown glass exceeds the aperture indicated by the same angle in air in the exact ratio of the refractive indices 1.5 and 1.0. The greater value of a (in the formula $n \sin w = a$) which appertains to the same angular aperture in a more highly refractive medium indicates numerically the increase in the effective rays which is secured for the delineation of the image.

"Instead of three objectives—air, water and homogeneous-immersion—being denoted by 60° , 53° and 48° angular aperture (a descending scale), the numerical expression gives .50, .60 and .62 (an ascending scale), and the comparison of their true relations is at once made.

"In conclusion, Mr. Crisp said; 'If Mr. Shadbolt had been as right in his views as he has turned out to be wrong, I venture to think it will be agreed that raillery (even if good-natured) was a mistaken course to adopt, and in fact revives the objectionable features of the old aperture controversy which we hoped we had at last got rid of. I don't complain of being called a 'harmless eccentric,' nor of being told that I am trying to persuade the readers of the *Journal* of what I know (or ought to know) instinctively is not true, and so far from desiring to be above criticism, I should be glad to have more criticism than I at present get, that I might be better able to meet the wishes of the Fellows at large; but I think it may be fairly asked that censure shall not be persistently pressed except as following, and not preceding, the understanding of the subject in respect of which the censure is bestowed. Nelson applying his blind eye to the telescope directed upon his admiral's signal, and declaring that he 'could not make it out,' may have been an excellent action at its proper time and place, but can not usefully be transferred to so very different a field as we have to deal with.'"

The discussion, of which the following is a summary, subsequently took place:

Mr. T. Powell said that, speaking simply as an optician, he was bound to say that Mr. Shadbolt's Fig. 3 did not represent a practical construction.

Mr. Ingpen said that, as he had originally introduced the apertometer to the Society, he should mention that the paper which he then read showed what was meant by "numerical aperture," and also the way in which the apertometer was applied. All, however, that he was concerned about in the present instance was to affirm again the explicit way in which the principle of the apertometer had been explained. The table to which Mr. Shadbolt objected was simply a table of sines. If it was carried out beyond 180° it was still a table of sines, but in that case the sine was multiplied by 1.33 if for water; or going higher still, by 1.52 for crown glass. Had Mr. Shadbolt ever seen the apertometer? If not, would he like to see it? There was one in the room which had been brought for the purpose.

Mr. Shadbolt said he did not desire to see it; he had simply disputed the idea that any aperture could possibly be greater than a whole.

Dr. Edmunds said he thought that much of the dispute on this question

was a question of nomenclature. A luminous object in the focus of an objective could be taken in three conditions. Firstly, as in air and uncovered; secondly, as optically connected with the lens-face by a homogeneous medium, such as oil or balsam; thirdly, as set in balsam under a cover-glass with a stratum of air above.

In the first case a plane-fronted air lens may receive a pencil of rays nearly a complete hemisphere. If the distance be such that a pencil of 140° strikes the lens face, and the objective be capable of reducing into image the whole extent of this pencil, the objective is an air lens of 140° angle of aperture. In the second case, if the back surfaces be so increased in depth and power as to replace the action of the lens-face (abolished by the homogeneous immersion), we shall have a homogeneous-immersion objective of 140° angle of aperture. The image now given will be much brighter than the first; but why? Not because the angle of aperture has been augmented, but because the amount of light transmitted within the same angular range has been vastly increased by abolishing the reflection as well as the refraction of the lens-face, and therefore the whole pencil of 140° has actually entered the lens front. In the third case we use the lens corrected for air as at first. Here the pencil of 140° is divided into five portions, of which four are mechanically diverted, and one only enters the lens-face. (1) That portion of the pencil outside the angle of 41° is wholly reflected backward. (2) That portion of the pencil inside the angle of 41° is split into two portions, of which one is reflected backward and the other emerges from the surface of the cover-glass. (3) The 82° portion emerging into air is refracted so as to be expanded into a pencil of 180° , of which only the central 140° reach the lens. (4) This 140° pencil is split by the lens-face, one portion of the pencil is reflected, and only the remaining portion enters the lens. Thus the light emitted from an object in air, uncovered, is received upon the face of an air lens and utilized to the full range of its angular aperture. The same object set in balsam under a cover-glass is so environed that only a small portion of its pencil is allowed to reach the face of an air lens. The beauty of the image given by the homogeneous lens depends upon the quality and intensity of the pencil which enters the lens, and not upon its increased range of angular aperture.*

*To a casual reader this would appear to be an exposition of the matter by an intelligent observer who was a complete master of his subject. It is, however, as we shall show, a perfect farrago of nonsense from the first word to the last.

(1) Dr. Edmunds places in juxtaposition "an air lens of 140° angle of aperture" and a "homogeneous-immersion objective of 140° angle of aperture," and then gravely proceeds to demonstrate that the reason why the latter image is brighter than the first is "not because the angle of aperture has been augmented"—*having started with the premise that they were both 140°* . What was the object of this demonstration?

(2) Dr. Edmunds says that "in the back surfaces be so increased in depth and power as to replace the action of the lens-face, abolished by the homogeneous immersion." Is it possible to conceive a more hopeless fallacy regarding the simple optical action of a plane surface of glass than this in which Dr. Edmunds revels? He assumes that refraction at a plane surface implies amplification! In this, however, he has only appropriated to himself Mr. Snodbolt's view—somewhat similarly expressed. If it were correct, why does not an immersion objective give higher amplification on a dry-mounted object? If there is loss of power by suppressing the anterior refraction there must be increase of power on restoring it!

(3) Dr. Edmunds, as will be seen, accounts for the extra light of the immersion lens on the assumption that the reflection at the front lens is abolished by the immersion fluid. That is, by the doing away with a loss of light amounting to say 15 per cent. (the loss by reflection) an increase of 125 per cent. (which is the gain by an oil-immersion objective) is produced as the result. How such a result is arrived at (which at first sight looks to be a little contrary to the usual understanding of the action of natural forces) Dr. Edmunds leaves unexplained, though we hope his view on that point is to be developed more in detail later.

(4) Dr. Edmunds, extraordinary as it may seem, never grasped the simple fact that equal angles (or pencils of equal angular extension) differ in their optical effects according as the medium (air, water, or oil) varies, and he actually propounds the theory that the

Mr. Crisp said that apart from Dr. Edmunds' demonstration that there could be no angle of aperture exceeding 180° (which no one had ever attempted to dispute), the mistakes into which he had fallen were all traceable to the same fundamental error (by no means a mere question of nomenclature) that which had misled Mr. Shadbolt, though expressed in a different form.

It the first place, he reproduced the view which was current when immersion objectives were first introduced, and explained the vast increase of light transmitted by the homogeneous-immersion objective as compared with a dry objective of 140° , as being due to the "abolition of the reflection and refraction of the lens-face." Now the *increase* of light in the immersion-objective was as 1: $(1.5)^2$, or as 1: $2\frac{1}{4}$; i. e., an increase of 125 per cent. But the *loss* by reflection in the case of the dry lens was only 10 or 12 per cent., so that there was an enormous surplus left unaccounted for, and the explanation now given was wholly untenable.

In the second place, Dr. Edmunds treated the object mounted in balsam as being "so environed that only a small portion of its pencil is allowed to reach the face of an air lens." This is the old fallacy—pure and simple—that there is a reduction of aperture on balsam-mounted objects. So far, however, from the "environment" of the object being an impediment, the dry lens receives the *whole* pencil in that case as much as it does when the object is in air and uncovered.

superior capacity of the immersion lens over the dry lens depends upon the object being mounted in balsam with a cover-glass! He explains the matter thus: "With a dry lens and uncovered object the angle may be 140° ; with the same lens on a balsam mount the angle is reduced to 82° (*sic*): the immersion lens then steps in and restores the angle to 140° again. Dr. Edmunds thus calmly assumes that in using his three sets of figures 140° , 82° and 140° , he is dealing with multiples of the same unit, and is apparently utterly oblivious of the fact that the 82° is more than the equivalent of the first 140° , and that the last 140° very greatly exceeds it!"

As the Journal of the Royal Microscopical Society contains the reply of the Junior Secretary (Mr. Crisp) in the sense we have here indicated under heads (3) and (4), we presume that Dr. Edmunds' speech was printed much on the same principle as that which actuated the ancient Spartans when they made their Helots drunk to serve as a warning to their children.—ED. C. M. N.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

PILOCARPIN: ITS GENERAL EFFECTS AND ITS ACTION IN SYPHILIS.—Dr. Lewin, of La Charite Hospital, Berlin, has been experimenting on the action of pilocarpin upon the salivary and sudoriparous glands. In the course of three years and a half he has treated thirty-two patients affected with different forms of syphilide by subcutaneous injection of pilocarpin. Seventy-eight per cent. of the patients were cured. Of seven cases two were of serious form, and had resisted energetic mercurial treatment; the cure was incomplete, and it was necessary to have recourse to injections of corrosive sublimate to complete it. In five other cases the treatment had to be suspended on

account of intercurrent complications (endocarditis, hemoptysis, collapse).

The patients who were cured by the aid of pilocarpin showed large condylomata, various exanthemata, pharyngeal lesions, one a gummatous periostitis, and one ulcer of the leg.

The mean duration of the treatment was eighty-four days. The dose injected each time was usually fifteen milligrams. The cure would be shorter if patients would have daily injections, but as soon as the amendment of the symptoms begin they require less and less frequent applications of the remedy.

Pilocarpin seems to prevent relapses with greater surety than mercury or vegetable depuratives. But in respect to facility of application, certainty of result and rapidity of cure, this medication is inferior to injections of corrosive sublimate, and often leaves behind it extreme sensibility to the influences of temperature, which obliges patients after the cure to keep their room for some time for fear of arthritic and rheumatic troubles.

According to the experience of Lewin and others, pilocarpin and its salts act especially on the salivary and sudoriparous glands. The symptoms which its use may cause, and which may oblige us to suspend the treatment, are nausea, vomiting, cephalalgia and cramps, trembling of the hands, swelling of the submaxillary glands, weakness, loss of sleep, erysipelas of the face, and stomatitis. —*Medical Press and Circular.*

CHIAN TURPENTINE AGAIN.—The controversy over Chian turpentine as a remedy for cancer of the uterus is still going on in England. In the first place, Prof. John Clay, of Birmingham, announced good results following the use of this remedy in cases of uterine cancer. It was immediately tried by other investigators, the plethoric clinics affording abundance of ready material. Lawson Tait was among the first to bring in adverse results, his report being followed by others from less distinguished investigators. In the *Lancet* for Nov. 27, and Dec. 1, Dr. Henry Morris reports "ON CHIAN TURPENTINE AND ITS USELESSNESS IN CANCER," quoting, at length, the experience with the drug in Middlesex Hospital, the title of the Doctor's article fairly representing the conclusions at which he arrives. This conclusion is emphasized by the action

of the Medical Board of the hospital in passing a resolution: "That, as the results of a prolonged and careful trial of Chian turpentine in the treatment of cancer prove the drug to be quite useless as a remedy for that disease, directions be given to the dispenser not to obtain any more of the drug for the cancer patients." To this resolution and to the article of Dr. Morris, Prof. Clay addresses himself in the succeeding number of the *Lancet* in language that indicates at least a warmth of feeling. Dr. Clay says: "It was never contemplated by me that the remedy should be used in the treatment of cases verging on death, as five of the cases reported by Mr. Morris evidently were, nor did I ever suggest or imagine that Chian turpentine would build up a new uterus, or repair a cancerous fistula of the intestines, or patch up a great cavity into the bladder, or restore a large recto-vaginal fistula with the fundus of the uterus entirely destroyed."

Dr. Clay, referring to his own practice and that of others, says: "Chian turpentine, in cancer of the uterus, does relieve pain in the majority of instances; hemorrhage is arrested; in some cases there is a marked diminution of the cancerous mass, and in others there is an apparent entire disappearance of it as well as a marked improvement in the general health."

The controversy, as between Drs. Clay and Martin, has evidently narrowed itself to "it does" and "it don't."

THE ERADICATION OF THE TUBERCULOUS TAINT.—Dr. H. Gibbons, Sr., of San Francisco, presents (*Report California State Board of Health*, 1880,) some valuable facts relative to the eradication of the tendency to pulmonary disease. During the year he made an official visit to San Diego, Cal., to investigate the sanitary features of the locality with reference to the establishment at that point of a State hospital for consumptives. He found the community to be composed, for the most part, of individuals who had come there as invalids, but who, after their recovery, had remained as permanent citizens. The consequence is, that the present population is derived "largely from a tuberculous or consumptive stock." Says Dr. Gibbons: "It is doubtful whether there can be found elsewhere a population more extensively contaminated

with the tendency to pulmonary disease, and better fitted to work out the problem which has been referred to."

The Doctor found many persons who had come to San Diego years ago in advanced stages of pulmonary disease who had since recovered, and are now living there in the enjoyment of good health. There appears to be no manifestation of the inherited taint in the offspring of this people. Thus the Doctor visited the school and found forty or fifty pupils, from nine to thirteen years of age, none of whom presented the least appearance of poor health or tuberculous diathesis. Of course this community, as an experiment for the eradication of tuberculous taint, is just in its infancy. Its sequel will be looked for with interest.

By reference to the report of Dr. Hatch (*Ib.*) on the climate of San Diego, it is found that the mean temperature is 62.11° ; the annual range only 19° ; the greatest difference between any two consecutive months—October and November—but 6.12° . The town, occupying a "mesa" on the east coast of San Diego Bay, but 62 feet above sea level, had a mean relative humidity, for the half year embracing the wet season, of 77, and, for the half year covering the dry season, of 59, giving an average mean humidity for the year of 68. There were but eleven rainy days during the year, giving an aggregate rain-fall of 2.49 inches.

NICOTINE POISONING.—Richter, of Sonneberg, reports (*International Journal*) two cases of nicotine-poisoning from excessive cigar smoking. The first case, a man of 45, died after manifesting symptoms of both physical and mental disease. The *post-mortem* revealed cerebral anæmia; the heart was strikingly flabby, entirely collapsed, and contained no blood clots. The second case, that of a man about 35, who smoked from six to ten cigars every day, the symptoms included general nervousness, unsteadiness of vision, and a feeling of weight in the eyes, followed after a while with dimness of sight and increasing inability to work, pressure in the head and vertigo, pains in the back, unsteadiness of motion and impotency. Palpitation ensued, followed by feebleness of pulse and heart-beat. Angina pectoras was also experienced. Our author adds: "By abstaining from smoking, and under the employment of a mild course of

hydropathic treatment, succeeded by the use of the constant current, the symptoms improved and disappeared with comparative rapidity."

MALT EXTRACTS.—The different preparations of unfermented malt have been so long before the medical public, and their virtues have become so well known, that it is scarcely necessary for us to again commend them to the attention of our readers. We do not suppose it is necessary for us to write a formal certificate of the unexampled excellence of any particular preparation, for, like Powers & Weightman's quinine and Squibb's ergot and chloroform, the products manufactured by the Trommer Company, of Fremont, Ohio, have achieved a world-wide reputation—a reputation based upon intrinsic value—one that can not be overcome except by a falling off in the quality of their goods. Thus far, the progress evinced by the improvement in their preparations is all that can be reasonably desired by the most critical therapist or most fastidious patient. Other things being equal, we should expect from those longest in the manufacture and having the most extensive patronage, those preparations which would show the highest excellence. This holds good of every product of human ingenuity, and is a self-evident fact in relation to malt extracts.

The experience of brewers has shown that barley affords the largest percentage of the ferment which affects desirable changes in amylaceous articles of food. The diastase is the essential ingredient in a malt extract, so far as its digestive properties are concerned. As regards the presence of maltose or glucose, the less there is of either in the preparation the better, for it is cheaper and in every way better to furnish these along with the bone-forming materials in the form of ordinary articles of food than to compel the patient to pay an exaggerated price for these common agents, which are to be obtained everywhere, in the form of an expensive medicine. The more diastase, then, the manufacturer compresses into his malt extract, and the less he overburdens his product with extraneous materials, the better for the patient's pocket and the prescriber's reputation.

These are points to be remembered by the physician, and if so remembered, the manufacturer will be necessarily compelled to so modify his product as to meet the

demand. Although we believe that no product of the manufacturer's art has attained absolute perfection, yet we believe the "old reliable" Trommer Company has advanced a long way toward that goal.

BOOK NOTICES.

SYPHILIS AND MARRIAGE. Lectures delivered at the St. Louis Hospital, Paris. By Alfred Fournier. Translated by Alfred Morrow, M. D., Physician to the Skin and Venereal Department New York Dispensary. 8vo. Pp. 251. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, \$2.00.

Physicians are frequently consulted by those who have had syphilis as to the propriety of their marrying. Although it may be made a rule to advise against marriage when an individual has been constitutionally affected, yet the medical adviser should be informed as to the accidents liable to result from a syphilitic person marrying one who has never been exposed to the disease—accidents both to the partner and offspring.

The work before us contains much more information in regard to the transmission of syphilis by marriage, the heredity of the disease, etc., than will be found in any work devoted to the venereal diseases and their treatment as usually contracted. The laws of syphilis, in these respects, are a study by themselves, and can only be taught by those who have made them the subject of special study and observation. Fournier's work may truly, therefore, be said to fill a want. He is a universally acknowledged authority upon the subjects of which he treats.

Physicians will find the work full of a vast amount of interesting and valuable information. The author gives special prominence to the moral obligation imposed upon the physician as regards public prophylaxis, and formulates a complete system of rules to guide his conduct in dealing with the various complex and difficult social problems which may arise.

We recommend the work to our friends.

A PRACTICAL TREATISE ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY. Including Localized and General Faradization; Localized and Central Galvanization; Electrolysis and Galvano-Cautery. By George M. Beard, A. M., M. D., and by A. D. Rockwell, A. M., M. D. Third Edition. Revised by A. D. Rockwell, M. D. With nearly 200 Illustrations. 8vo. Pp. 758. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. 1881. Price, \$5.50.

Previous editions of this large and well-known work have been noticed by us. The object of it is to present, in a compact and practical form, *all* that is now known of the application of electricity to the treatment of disease. The two authors have combined their own extensive and varied researches in localized and general electrization, with the labors of all other recent explorers in electrotherapeutics. Probably the experiences of no two other physicians in the world have been so great as the experiences of these two gentlemen in the application of electricity to the treatment of disease. They have each bestowed a labor that could only have been prompted by a great love for the subject. While there are a number of other works of value upon the subject, their work, in consequence of its thoroughness—treating, as it does, in detail, every subject pertaining to electrical therapeutics—has been regarded, at least in this country, since the publication of the first edition in 1871, the standard work.

The third edition has been prepared by Dr. A. D. Rockwell. There have been both additions and omissions. Two new chapters have been added, on the “Sequelæ of Acute Diseases” and on “Exophthalmic Goitre,” respectively, have been inserted, while several pages in the discussion of electro-diagnosis have been omitted. The chapter on “Diseases of Women” has been revised. Other improvements have been made which it is not necessary to detail, making the work more acceptable and more abreast of present knowledge. We have no doubt but that it will continue, in the future, to meet with the favor that it has in the past.

ON THE CONSTRUCTION, ORGANIZATION, AND GENERAL ARRANGEMENTS OF HOSPITALS FOR THE INSANE. With Some Remarks on Insanity and Its Treatment. By Thomas S. Kirkbride, M. D., LL. D., Superintendent of the Penn-

sylvania Hospital for the Insane, etc. Second Edition. With Revisions, Additions, and new Illustrations. 8vo. Pp. 320. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co. Price, \$3.00.

As is well known, Dr. Kirkbride is the leading alienist of this country, and is authority on all subjects pertaining to insanity. The hospital for the insane of which he has charge is known the world over.

The work before us, although devoted largely to the proper construction and general arrangements of lunatic asylums, contains very much in regard to insanity as a disease, which will be interesting to the general practitioner. There are thirty-seven chapters. Among them we find chapters devoted to the definitions of insanity, frequency of insanity, curability of insanity, economy of curing insanity, classification, the necessity of a correct nomenclature. The information in regard to the construction and arrangements of asylums, of course, is of the most valuable character, for Dr. Kirkbride has had a very long experience, and has given it much thought and research.

We heartily commend the work to all who are interested in the insane and their treatment. Superintendents of asylums, architects, trustees, etc., should study it, if anxious to discharge their duties.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By Louis A. Duhring, M. D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, Dermatologist to the Philadelphia Hospital. Second Edition. Revised and Enlarged. 8vo. Pp. 644. Philadelphia: J. B. Lippincott & Co. Cincinnati: R. Clarke & Co. 1881. Price, \$6.00.

A few years ago the work of Mr. Erasmus Wilson, of London, was the standard work on diseases of the skin, both in this country and England. At the time, it was deservedly the principal work of authority, but now, so many are in advance of it in exhibiting the present advanced knowledge in dermatology that no one would think of consulting it, especially as regards pathology and etiology. Among those which have superseded it and are authorities, none hold a higher place than the work of Dr. Duhring, and deservedly so.

Among its excellences are that it is a practical work.

Discussions upon unsettled points are avoided, but all established facts that are of importance are clearly and intelligibly stated, so as to give the student a very thorough understanding of the various affections. It is generally believed that diseases of the skin are the most difficult of all to master; and a majority of physicians confess an inability to diagnose any but the most common. But we feel quite sure that with Dr. D.'s book the student or physician will be able to proceed with the study of dermatology in a very satisfactory manner, and will wonder in what the much talked of difficulties consist.

In the present edition, the work has been much improved. Many chapters have been entirely rewritten, and it has been enlarged to the extent of about 100 pages. New matter will be found upon almost every page. It has been the aim to present the subject in the light of the latest dermatological researches.

THE HYGIENE AND TREATMENT OF CATARRH. Part I. Hygiene and Sanative Measures. Part II. Therapeutic Measures. With Forty Illustrations. By Thos. F. Rumbold, M. D. 12mo. Pp. 473. St. Louis: Geo. O. Rumbold.

This work treats largely the same affections as are treated by Dr. Bosworth in his work. This one, however, includes some of the diseases of the ear. Dr. Rumbold, it seems, has had a large experience extending over twenty years.

The author, convinced of its importance, gives much attention to hygiene. He is convinced that, unless a strict hygiene is observed, many of the cases of catarrh will fail of cure which might otherwise be relieved. His remarks, on this part of the subject, are interesting, and will be found of value. He devotes several chapters to describing dress, wrappings of the neck, furs, shirt-collars, night-caps, shampooing, changes of under-clothing, coverings of the feet, foot-bath, etc. A whole chapter—chapter xviii.—is devoted to discussing the use of tobacco—its mental and physical effects. The author is not a friend of the weed. He states that as tobacco depresses the system while it is producing its pleasurable sensation, and as it prepares the mucous membrane (by causing a more permanent relaxation and congestion than any known agent) to take on catarrhal inflammation

from even slight exposure to cold, it should require no further evidence to show that its use ought to be discontinued by every catarrhal patient. The only remaining question to be answered is, shall its use be discontinued at once, or shall the victim "taper off" in his endeavor to become master of himself?

The work is written in plain language, and the descriptions easily understood. It will, no doubt, be considered a valuable acquisition to the literature of the subject. It contains very much important and practical information that can not be found elsewhere.

A MANUAL OF DISEASES OF THE THROAT AND NOSE. By Francke Huntington Bosworth, A. M., M. D., Lecturer in Bellevue Hospital Medical College. 8vo. Pp. 427. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co. Price, \$3.00.

Dr. Bosworth, in speaking of his experience in the class of diseases to which this work is devoted, states that in nearly ten years he has recorded the results of over 8,000 cases. Certainly, quite an extended experience, and one from which much should have been learned, and, on glancing over the pages of his book, we think much has been learned.

Diseases of the throat and nose are affections usually difficult to treat, and we feel quite sure physicians will feel obliged to an author for any substantial hints he may be able to afford them. An examination of the present work we feel quite sure will convince any one that it contains much valuable matter that will materially aid in the treatment of the diseases to which it is devoted. In this respect the author is quite full in his details, preferring to err in this direction, as he says, rather than fail of making himself clearly understood.

We notice that the author very fully describes the pathology of the various affections he treats, which we regard as a great merit. There are quite a number of cuts exhibiting the microscopical structure of various parts. It is necessary, in order to found a rational treatment, that the pathological changes incident to any affection be thoroughly studied and as well understood as our present knowledge will permit. The various instruments employed in treatment are also described and exhibited by cuts.

We are sure students and physicians will regard the work as one of value and worthy their study. It will assist much in the treatment of a class of diseases that are regarded difficult to manage.

THE PRINCIPLES AND METHODS OF THERAPEUTICS. By Adolph Gubler, M. D., Professor of Therapeutics in the Faculty of Medicine, Paris. Translated from the French. 8vo. Pp. 445. Philadelphia: D. G. Brinton Half Russia, \$4.50.

The following description of this work we copy: "It is, as its title-page states, a discussion of the *principles* and the *methods* of therapeutics. It does not take up this branch as an accessory to materia medica; nor is it concerned, beyond a moderate extent, with the physiological action of drugs; nor yet has it much to say on the treatment of individual diseases. These topics, which figure so prominently in most works on therapeutics, will be found to occupy comparatively little space in the present one."

The object of the work is to teach the methods which can be most effectively employed in the administration of remedial agents, and next the *principles* or *processes* by which their remedial action is exerted on the human economy. It is a study founded on the clinical, physiological, and chemical observations of the actions of medicines in disease, and the technical artifices for their introduction into the organism. The author was a thorough student and accurate observer, and, consequently, in his researches, unfolded a large amount of valuable knowledge. The work before us shows this, full of facts, as it is, the results of personal experience and observation.

The work, more than any other of the kind with which we are acquainted, is a science of therapeutics. The author has aimed to unfold principles. The student who loves to be able to give a reason for all that he does in the application of remedies to disease will find it a work just to his mind.

JOHN HUNTER AND HIS PUPILS. By S. D. Gross, M. D., LL. D., D. C. L., Oxon., LL. D., Cantab., Prof. of Surgery in Jefferson Medical College. 8vo. Pp. 106. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$1.50.

We are very sure every medical man, who takes an interest in his profession, will hail with pleasure this little memoir of one of the most eminent surgeons that ever lived. Every physician has heard of John Hunter, the great surgeon, and it is natural to suppose that every one would like to know something of the life of so distinguished a man. Prof. Gross by the publication of this memoir has filled a want. It is brief, but it is sufficient in detail to give a very satisfactory biographical sketch of the subject.

WARREN'S MONTHLY CATALOGUE. Mr. Alfred Warren, 219 Central Avenue and 271 W. Sixth Street, of this city, has commenced the publication of a monthly catalogue of new books, with their prices appended. We are in receipt of the first number, a handsome pamphlet of 32 pages. It embraces new publications in every department of science, art and literature. Mr. W. has been in the book trade in Cincinnati for over twenty-seven years, and is, therefore, thoroughly experienced in the business. He has recently very much enlarged his store. Besides having the area largely increased, making much more room for shelving, it is rendered much more convenient and improved in appearance. It has a handsome entrance both on Central Avenue and Sixth Street.

Mr. W. carries a full line of books in every department of literature, science and art—works of history, embracing those of all the leading historians; works of philosophy, natural, mental, political; theological works; poetry; fiction; science, mathematical, natural; art; medicine; and miscellaneous works of every description. Physicians will find all of the latest medical publications. Mr. W. gives especial attention to medical works. His prices are lower than those of other bookstores. Any book that he might not happen to have on hand, he obtains immediately for the accommodation of his customers. Physicians or others residing in the country can have any work sent them promptly by mail or express by sending Mr. Warren their order accompanied by a remittance. In these days of books, it is highly convenient to be in correspondence with an intelligent, honorable bookman who will, without delay, supply you with any book you may want of whatever kind.

Mr. W. also keeps constantly on hand the largest sup-

ply of periodicals in the city. He, too, receives subscriptions for them at the publisher's lowest price. He has a full line of stationery of every description—paper, ink, gold pens. etc.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

HEREDITY IN CAPACITY FROM MENTAL CULTURE.—Our many engagements have prevented us from noting down some thoughts upon the above subject for our editorial pages. In lieu thereof we have quoted the remarks below from an editorial in the *Lancet* of March 5. They contain a great deal we had purposed writing out ourself, expressed, however, probably, in better language than we would have done.

The more enlarged and correct our knowledge of the structure of the brain becomes, the better we are enabled to understand mental phenomena, and the laws governing them. Of course there is much for us yet to know, but with our present information we have been

enabled to resolve very much that previously was hidden from us, and we had reason to believe would continue to be.

As regards the mental characteristics of men and women, the differences in refinement of mind, the variety in intellectual capacities of the sexes will be apprehended more and more as our knowledge of the material elements of the brain, its tissues, cells and nuclei, in its two substances of grey and white matter, increases.

We have no doubt our readers will subscribe to most of what the editor of the *Lancet* says in regard to the mental culture of females. We would call attention especially to what is said in reverse, that the physical basis of mind is undoubtedly capable of improvement by the developmental force of culture in successive generations:

Possibly—we might say probably—the difference of capacity between a child born of parents and grandparents who have never been educated, and one bred from a stock which has been duly trained to the intellectual exercises, is the difference of what we call brain-powers as exhibited by two organs, one of which consists of cells or molecules endowed with an inheritance of "capacity" to be taught, while the other is composed of elements which have not reached the evolutionary status of being, so to say, educable. The physical basis of mind is undoubtedly capable of improvement by the developmental force of culture in successive generations. There is, however, a reverse to this view of the question, and it not less clearly and certainly points to the conclusion that the process of development by education may be carried so far as to destroy or exhaust the intellectuality which it is desired to exalt and perpetuate. The children of a stock which has been highly cultivated during several generations not unfrequently exhibit an instability of mental temperament, which readily degenerates into a neurosis. This is especially notable in the cases of males in a family remarkable for the culture of its female members. The point—evidently one of the deepest interest—is strangely overlooked or wilfully disregarded by those psychologists and physiologists who lend the countenance of their scientific experience to the vague and mischievous hypotheses propounded by the promoters of the higher education of females and of women's rights.

In the ordinance of nature the female is endowed with a force tending to the reproduction from her arrested or suppressed organism of the perfect organism of the male. It is essential to the accomplishment of this physiological task that the female should be trained for the development of *capacity*—that is, receptivity—as a cerebral property, rather than impressed with the particular bias of education in a special class of subject, or on formulated lines. The distinction indicated is not fanciful but actual, and may be directly inferred from the lessons of experience. The male children of mothers who have been distinguished for *special* intellectual attainments are not, as a rule, remarkable either for their brain-power or the mental work they achieve; whereas the male children of mothers who have been notably characterized by *general* intelligence, without special talents, are commonly distinguished for intellectual ability. Experience seems to show that *special brain-work*, properly so called, on the part of the mother, exhausts the energy of brain-development—or reproduction—which, if con-

served, would express itself in the mental perfection of her male offspring. The operation of the law of "development by work"—universal in its application under normal conditions—seems to be suspended when the work done is the result of a concentration of energy, by which force is drawn off from centers other than those thrown into special activity. It follows that the higher education of women is radically—whatever it may be in the case of the individual—an economic mistake.

There can be no question as to the possibility of educating women to the level of men on special lines. The total amount of cerebral tissue available for the production of a highly educated mind-organ is not so great in the case of an average female as in that of an average male. The cells or molecules ready to be impressed or combined—as the constituent elements of organized brain-substance must be impressed or combined to produce *positive* intellectuality—will be less numerous in the case of the female than in that of the male; but the greater pliability of the female constitution seems to render its component parts peculiarly susceptible of influences directing its powers into any particular channel. It is, therefore, in no sense—physiologically—surprising that women should excel in the intellectual exercises proper to men. Meanwhile, the possible is not always the prudent; and those who, forming a hasty judgment based on appearances, conclude that because young women can achieve distinction in the pursuits of a university career, they ought to be allowed to do so, would do well to study the facts of heredity in the light of history and experience. When the subject comes to be investigated by this method, it will, we are convinced, be found that the course on which we are entering, and the policy to which we are committing ourselves in this country, are both unsatisfactory, and, so far as the race is concerned, unsafe. For the sake of a little ephemeral distinction the feminine stock is being placed in jeopardy, and in the future it will be found that the totality of mind-weakness and mental disease has been augmented. Woman's mission is not, in any degrading sense, inferior, but it is complimentary, to that of man; and not only her health and happiness, but the prosperity of the race as a whole, are directly dependent on the integrity with which the female discharges the duty that nature has devolved upon her in the economy of development. It is not a question of power, but of purpose; and those who have egged women on to overstep the boundary lines of the path marked out for them are not only doing wrong, but working mischief, of which the consequences will be apparent later on, when the time to remedy the effects of this evil counsel is past. Our appeal must now be to the observation and experience of the educators of youth and the students of national and intellectual history.

JOHN HUNTER.—In the memoir of this distinguished man, it seems to us probable that some who will be disposed to take issue with Prof. Gross in his comparative estimate of him. There is no one who will not readily concede to his having been a great man, indeed. Not merely great as a surgeon, but great as regards his achievements in medicine generally, and great in having a great mind. As Prof. Gross says, "he was not only a great surgeon, a wise physician, and a great anatomist and physiologist, human and comparative, but, above all, he was a philosopher whose mental grasp embraced the

whole range of nature's works, from the most humble structure to the most complex and the most lofty." But Prof. Gross goes farther than ranking him among the greatest medical men, but ranks him, with the exception of Hippocrates, the father of medicine, "as the grandest figure in the history of our profession." He proceeds to say that he makes no exception of Ambrose Pare, the father of French surgery and the inventor of the ligature for the arrest of hemorrhage, a contrivance which has been so beneficial in saving so many lives; of Albert von Haller, the father of scientific physiology, or even of Xavier Bichat, the founder of general anatomy, and one of the most remarkable men that ever lived. He does not even make an exception in favor of William Harvey, the discoverer of the circulation of the blood. Great as were these men, he thinks it no disparagement to rank John Hunter higher. He readily admits that they were men of more learning, for Hunter's education was limited, having had but few advantages in that respect in his youth. Nor does he regard him as superior in the amount of human suffering he was instrumental in relieving, for, in this respect, Ambrose Pare was fully his equal. Not in inventive genius did he surpass them, especially Bichat, in Dr. Gross' opinion, for Bichat, as he admits, created a new science before he was thirty years of age, and although Dr. G. does not speak of it, in this connection, Ambrose Pare displayed superior inventive genius in his invention of the ligature, before unthought of. In what way, then, it may be asked, was John Hunter the greatest medical man that ever lived with the one exception? Prof. Gross is not specific in replying to this question; and although we are not disposed to yield to any one in our admiration of the great surgeon, yet if our space permitted, we would undertake the task to demonstrate that the medical profession could lay claim to others in its fold, besides Hippocrates, fully the peer of John Hunter, great as he was. We can realize how that Prof. Gross would feel a partiality for him, since Hunter, like himself, was a distinguished surgeon. Not knowingly, of course, would he give him a precedence that did not belong to him, but all are aware of the unconscious influence which is exerted upon one in favor of another who is engaged in the same profession or pursuit.

MORE THAN IS DESIRED.—Physicians have more than once had reason to complain, because, when called upon as witnesses in courts of justice, they were compelled to disclose facts which had been imparted to them in their professional capacity—facts which would not have been thus imparted if it had not been for the necessity of applying to them for relief. But in New York they have more than they want, as we learn from a letter of Dr. Sturgis, printed in a recent number of the *Philadelphia Medical Times*. We give an extract:

“The code of 1876, section 834, reads, ‘A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity.’

“On the face of it this statute seems to shut the mouth of the educated physician, trained to habits of reticence, while it leaves unrestrained the babbling tongue of every unprincipled quack, who happens to hold a bogus or forged diploma, and who is, consequently, not ‘duly authorized.’

“The courts hold not only that a physician is forbidden to divulge any knowledge affecting the character or reputation of his patient, but that he shall not be permitted to testify to any information which he may have received from the sick person regarding any disease whatever. Gross injustice may result, and probably has resulted, from the enforcement of this law. In one instance within the knowledge of the speaker, where a patient sued a druggist for dispensing too large a dose of medicine, the attending physician was not only prohibited from testifying to the actual facts which he had observed, but was instructed by the learned judge to base his opinion, as an expert, solely on a set of symptoms detailed by the patient and his wife—symptoms which the physician knew did not exist, and could not have been produced by the dose in question.

“The outcome was an unjust and exorbitant verdict against the defendant.”

Here, then, it is distinctly asserted that injustice was wrought by this law, or, certainly, by the interpretation of the law, and the physician was made, and in other cases is liable to be made, an unwilling accomplice in what he knows to be a piece of gross injustice.

Nor is this all: he may, by this tying up of his tongue,

be made the tool of some unprincipled scamp, and by his silence seem to give assent to what he knows is a piece of downright rascality.

EXCESSIVE USE OF ELECTRICITY.—In the preface of the third edition of Drs. Beard's and Rockwell's Treatise on Electricity, which we notice on another page, a statement is made in regard to the excessive application of electricity, which we would commend to the attention of our readers, and, therefore, copy it. Not a few, in employing electricity as a therapeutic agent, from the long electrization to which they subject their patients, would seem to think that it could not be overdone. On the contrary, that harm is often done by prolonged applications—*i. e.*, beyond certain limits—we have felt quite sure; and, in the extract we make, we find our hypothesis confirmed. On page 7 of preface Dr. Rockwell says:

"Now that electricity has become popular in medicine, there is, in some quarters, a temptation to overdo the application, not only in strength, but in length and frequency; to treat all cases alike by routine, mechanical applications, regardless either of the disease or the idiosyncrasies of the patient; hence, in cases not a few, come results either negatively or temporarily injurious, with disappointment on all sides. The dosage of electricity is a special study of the greatest practical importance; the difference in result between a very gentle and short application and a very strong and protracted one being, in some cases, all the difference between agreeable success and painful failure."

"There are persons who must be treated not only mildly, but at long intervals, and there are persons with, perhaps, the same maladies that can bear with advantage powerful and frequent applications; to distinguish between these classes and the various gradations that lie between the extremes of tolerance and of susceptibility is the first duty, and, oftentimes, the hardest study of him who makes much use of electricity in medicine."

BELLEVUE HOSPITAL MEDICAL COLLEGE.—We regret to learn, from a circular, that this excellent school of medicine has been compelled to recede from the important changes it had made in the curriculum of instruction and in the requirements for graduation, and to return to its

former methods in both respects. It seems that the profession is not yet prepared for the improvements it had inaugurated, and for it to persist in them there was reason to believe would be ruinous.

The improvements consisted of abolishing the preliminary term, and extending the regular winter session to six months. Attendance upon three winter sessions was made obligatory. Students were required, during the first two years, to attend all the lectures, didactic and clinical, and, at the end of the first and second years, to pass examinations in chemistry, anatomy, physiology, materia medica, and therapeutics. An examination in these branches having been passed, the third year was to be devoted to the practical departments of medicine, surgery, and obstetrics. The requirements embraced, in addition to dissections, practical courses in chemistry and histology.

In returning to the original requirements of three years' study and attendance upon two courses of lectures, such students as elect to do so, may enter the school with the purpose of attending three courses of lectures, and divide their studies accordingly. Every advantage and encouragement will be given them in so doing. It is announced that a great many of the new students have announced their intention of attending three courses of lectures, and dividing their studies accordingly.

Great praise is due the college for endeavoring to work an important reform in medical education, and we regret exceedingly that the profession at large seem not educated up to the point of sustaining it. We hope, however, that the day is not far distant, when a college desiring to advance medical education will meet with the proper encouragement.

CHLOR-ANODYNE IN IVY POISONING.—I wish to record an instance showing the remarkable powers of chlor-anodyne in a case of ivy poisoning, where the feet and legs were terribly swollen, and in which the itching and burning were almost unendurable. Sulphate of morphia had been tried, and instead of relieving pain, it increased it. Bromide of sodium and the fluid extract belladonna were both applied and proved worthless. Jamaica dog-wood also failed; this, perhaps, was due to the small doses em-

ployed, as seemed prudent in a comparatively new remedy, but chlor-anodyne gave almost instantaneous relief. There were no unpleasant consequences, though the patient was very nervous and irritable.—*H. H. Baker, M.D., in Therapeutic Gazette, October, 1880.*

THIS CARD WILL EXPLAIN ITSELF.

To the Alumni of the Miami Medical College.

216 Race Street, Cincinnati, O., Feb. 22, 1881.

Dear Doctor—In your invitation to attend the alumni meeting of the Miami Medical College the 1st prox., it is stated the History of the Association will be ready for delivery at that time. As the records of the Society, since its organization, have been faithfully kept by the writer, he does not feel, in justice to yourself, that he can allow you to accept this as a true copy of the original. The original "History of the Association" was mutilated by a decision of a majority of the Publication Committee to such an extent—on the supposition that the whole truth should not be known for fear of offending the faculty—that I withdrew my name as a member of the same, as well as Secretary of the Association. The following paragraph was ONE of the truths that was thought offensive, and was therefore modified to suit the taste of the Committee. After speaking of the quarterly meeting of September 27, 1877, at Dr. Wenning's, the papers, discussion and supper, the record reads, "There may have been a presentiment that this was to be the last of the 'Quarterlies.' However that may be, such has proved to be the case. And, what is more striking, and what has caused more comment, with two exceptions, that of Drs. Davis and Stanton. These Quarterlies that have advertised the College far and wide—an average of five hundred postal-card notices being mailed for each meeting—have been held at residences of those who were in no wise connected with the faculty." Trusting you will accept the above, I remain

Very respectfully yours,

WILLIAM JUDKINS, M. D.,
Ex-Secretary Alumni Association.

BEST BOOK FOR EVERYBODY.—The new illustrated edition of Webster's Dictionary, containing three thousand engravings, is the *best book for everybody* that the press has produced in the present century, and should be regarded as indispensable to the well-regulated home, reading-room, library and place of business.—*Golden Era*.

THE NORTH AMERICAN REVIEW for April has articles on "Reform *vs.* Reformation," "The Thing that Might Be," "Religion in Schools," "The Ownership in Railroad Property," "The Historic Genesis of Protestantism," "The Telegraph Monopoly," "Henry Wadsworth Longfellow." The contributors are Tourgee, Pattison, McQuaid, G. T. Curtis, Fiske, Springer, Anthony Trollope. Published by D. Appleton & Co., New York.

MESSRS. PARKE, DAVIS & Co.—We desire to call attention to the several pages of advertisements of this house. They undoubtedly take the lead of manufacturing druggists not only in the West, but in this country. We have not had the pleasure of visiting their works personally, but we have been informed that they are immense. The leading position they hold has been acquired by their merits. Enterprising in the highest degree, and industrious in bringing themselves to the attention of the profession, they have labored assiduously that their preparations should be in every respect just what they represented them to be, so that when a trial was induced a confirmation of their statements followed as a matter of course. A customer once made by them is always retained. Consequently their business goes on increasing from year to year, so that there is scarcely a village, hamlet, or cross-roads in the whole United States that physicians are not found using the preparations of Parke, Davis & Co.

These gentlemen have done much in the way of preparing and introducing new remedies of value. A number of them will be found mentioned in their advertisements. For an account of others, we advise writing to them for a printed pamphlet, which it would be well to file away for further reference. In corresponding with them, mention the MEDICAL NEWS, and attention will be secured.

THE CINCINNATI MEDICAL NEWS.

VOL. XIV. No. 160. }
Old Series.

APRIL, 1881.

{ VOL. X. No. 4.
New Series.

ORIGINAL CONTRIBUTIONS.

Lecture on Diphtheria.

BY J. A. THACKER, A. M., M. D., F. R. M. S.

(Continued from March number.)

DRS. H. C. Wood and Henry F. Formad have made experiments of inoculating lower animals with diphtheritic matter. In thirty-two instances in which inoculation of diphtheritic matter was performed subcutaneously and in the mucous membrane of the mouth, the animals died in six days. Only in one case, we are told, were there any exudations present in any organ to make it at all probable that diphtheria was the cause of death. Oertel has stated that when animals die, which have been inoculated with diphtheritic matter, that the internal organs are infested with micrococci, and that the presence of them is characteristic of diphtheria. Wood and Formad, however, have failed to find micrococci in either the inoculated animals that have died or recovered.

These investigators, when they cut the jugular vein and examined the blood instantly, have found no signs of bacteria. But when delaying a few minutes after the completion of the *post-mortem*, on opening the heart and examining the blood in it, it would be found containing many of these low organisms. In every case, as I learn from Dr. Jacobi, to whose work on diphtheria I am indebted for these facts, the internal organs were tubercular. But subcutaneous injection of innocuous foreign material, in five out of nine experiments, was followed by

the same result, so that this condition was not due, *per se*, to the inoculation with diphtheritic matter.

Prof. Jacobi's very recent work on diphtheria contains some facts in regard to diagnosis that deserve to be noted. He mentions that sometimes either catarrhal secretion or the effects of suppuration may be mistaken for the exudation characteristic of diphtheria. But these may be easily washed away or removed by a brush, or squeezed out of the follicles of the tonsils, into which a probe can be introduced sometimes to the depth of one-half inch. Muguet of the mouth might be mistaken by the very inexperienced, so, also, the gray discoloration of superficial follicular ulcerations. Such patches, Dr. Jacobi states, are very numerous in the fauces and on the lips and cheeks, never on the gums, except in ulcerous stomatitis, which is not follicular. They are accompanied, too, by vesicles containing more or less serum, which have not yet ruptured. "It must be remembered, however, that the mucous membrane, when deprived of its superficial covering, is liable during an epidemic of diphtheria to become infected, like every other wound. I have seen cases in which stomatitis and diphtheria existed side by side, the latter having invaded the exposed surfaces resulting from the former."

Fever, Dr. J. states, is not always a prominent symptom; in fact, he says, at times it is necessary to take the rectal temperature in order to discover an elevation; as a rule, simple diphtheria of the tonsils is accompanied by very little fever. There are plenty of exceptions, however, to this. High fever in the beginning sometimes renders the diagnosis difficult or postpones it.

As the work of Prof. Jacobi referred to contains not a little not elsewhere to be found, I am disposed to quote from it still further. The value thus added to the lecture will compensate for the deficiency in original matter. The absence of lymphadenitis, he says, does not nullify the diagnosis of diphtheria, for when the tonsils are affected by the disease, there is little or no swelling of the neighboring glands. When the affection is located in a mucous membrane richly endowed with lymphatics, then there is considerable swelling of the glands. It is marked when the nose is affected. A few hours' duration of nasal diphtheria suffices for the development of a severe lymphadenitis, especially at the angles of the jaw. When

the glands at that point are much inflamed and enlarged, showing the existence of lymphadenitis, the throat should be examined with the idea of finding a membrane extending upward. But, in order to discover a membrane in the nose, it may be necessary to make use of a very short, broad rhinoscope reaching upward to the bony structure of the nose.

The swelling of the lymphatic glands, which Kronlein regarded as pathognomonic of membranous laryngitis, Prof. Jacobi denies as a fact. "Not only is that not the case," he states, "but what I have said above of the absence or scarcity of lymphatics and muciparous glands of the vocal cords and their neighborhood, renders the absence of lymphatic swellings a necessity, provided the latter do not depend on complicating diphtheria in other localities. In uncomplicated diphtheritic laryngitis I expect no lymphadenitis." He proceeds to say that "one of the pathognomonic symptoms of diphtheritic laryngitis, 'membranous croup,' is the relative *absence* of fever. Catarrhal laryngitis, pseudo-croup, is a feverish disease. A sudden attack of 'croup,' with high temperature—provided there is no pharyngeal or other diphtheria present—yields a good prognosis; without much fever, a very doubtful one. If I had but words strong enough to impress that fact upon the minds of my readers, for this is the very diagnostic point against which most sins are committed."

J. Solis Cohen tabulates the clinical differences between croup and diphtheria as follows, after stating that there is no actual anatomical distinction between them, either in the morbid products or the subjacent mucous membrane:

| CROUP. | DIPHThERIA. |
|--|--|
| Not specific in origin. | Specific. |
| Never contagious. | Frequently contagious. |
| Not inoculable. | Inoculable. |
| Not adynamic. | Adynamic. |
| Usually sporadic. | Generally endemic or epidemic. |
| Rarely attacks adults. | Frequently attacks adults. |
| Always accompanied by an exudation. | Occasionally no exudation occurs. |
| Only fatal by physical obstruction to respiration. | Often fatal without the least impediment to respiration. |
| No weakening of the heart's action. | Marked weakening of the heart's action. |
| Pulse frequently strong and hard. | Pulse never strong and hard, even though rapid and full. |

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|---|---|
| Respiration accelerated in proportion to the pulse, rarely less than 1:4. | Respiration not accelerated; usually less than 1:4. |
| Rarely albumen in the urine. | Albumen frequently present in the urine. |
| No secondary paralysis. | Secondary paralysis frequent. |
| Tolerates antiphlogistics. | Does not tolerate antiphlogistics. |
| Rarely occurs more than once in the same person. | Frequent relapses. |

From what has been stated it will be seen that Prof. Jacobi would not give assent to the distinctions thus made by Dr. Cohen.

The appearance of albumen in the urine will serve sometimes as a valuable diagnostic symptom between diphtheria and scarlatina. In scarlatina it is rarely noticed in the first week. It generally appears about the ninth or tenth day at the earliest, and may not be found until the twenty-fifth, or even the thirty-third day. In diphtheria it appears in the first few days, if at all—neither the degree of fever nor other general symptoms affording an explanation of its presence.

Gangrene manifests itself in a destruction of the tissues, for instance of the vagina or cornea, and depends sometimes on pressure by the impregnated surface; or it occurs on such privileged localities as are adapted, from their coating of pavement epithelium, for deep inroads of the degenerative process. Care should be used not to mistake any thick black masses at once to be gangrenous. It is not often that dangerous hemorrhages result from gangrenous portions of the neck.

When paralysis occurs, it commences usually in the soft palate and passes to the ciliary nerves. Besides these, there may be strabismus, general debility of the muscular system, local paralysis, atrophy of single muscles, atrophy of skin, and nutritive disorder, with alopecia, disorder of sensibility.

Since I have regarded it as acceptable to my hearers to quote, in this part of my lecture, extensively from Prof. Jacobi's recent work on diphtheria as embodying valuable researches in the disease by an eminent physician, who has given it much attention, I will here briefly epitomize his "summary:"

Diphtheria is characterized by its membrane. The diagnosis from muguet is easy. Follicular inflammation of the tonsils is recognized by its local character, by the ready removal of the deposits, and the easy introduction

of a probe into the follicle. Fever is not always high. Sometimes the temperature is even low in very bad septic cases. High temperatures, in the beginning, are less frequent than, for instance, in scarlatina. Glandular swellings may be absent for many reasons. Nasal diphtheria has much glandular swelling; may, in some distinct cases, have none at all. Diphtheritic laryngitis has less fever than catarrhal laryngitis, and when uncomplicated shows no glandular swelling. The character of the laryngeal membrane does not depend on the condition of the pharynx. Complete aphonia and uniform difficulty of inspiration and expiration indicates membranous obstruction; difficult inspiration, with easier expiration, and but partial hoarseness or almost clear voice, indicates the presence of local edema and consecutive paralysis of the vocal cords.

Primary diphtheria of the trachea is difficult to diagnose; it is likely to exist when, after apparently catarrhal symptoms, those of laryngeal stenosis occur very suddenly and fatal. The progress of the diphtheritic process downwards can be watched through the tracheotomy tube, and estimated by the absence of irritability of the mucous membrane of the trachea. Albuminuria is mostly an early symptom, and disappears more readily than in scarlatina. Diphtheritic paralysis is recognized by the frequency of its starting from the pharynx, its irregular course. It is mostly motory, sometimes sensory or sensitive.

TREATMENT.—In the treatment of this affection there is no specific remedy to rely upon. At various times in the past different medicines have been held forth as specifics quite confidently, but experience has proven them all to be of no avail in combating the disease or destroying the poison on which it is dependent. As the exciting cause is generally agreed to be a specific poison, it would seem as if an antidote might be discovered for it. But research in that direction has as yet failed to discover any. At one time chlorate of potash was relied upon very much in the treatment, but beyond acting as a febrifuge, like a number of other saline medicines, it has seemed to have no effect. As a topical agent, it seems to act beneficially, in consequence of its action upon ulcerated surfaces of mucous membranes. The muriated tincture of iron, also, at one time, was regarded by some

as almost a specific. But I do not think that, now, it is credited with any other property than that of a tonic, acting beneficially in some stages of the disease. Coming in contact with the diseased parts, when swallowing it, has produced beneficial results, destructive, as it would be, to any bacteria or fungi that had collected. But it would be more efficient in this respect if applied by means of a brush or probang.

Being produced by a blood poison, the exudation and throat symptoms are but external manifestations of the action of the poison, and no more constitute the disease than the pustules of small-pox constitute that disease. Therefore, while topical applications may do good, yet they can do nothing in the way of curing the disease or cutting it short. Nor will any internal treatment of which we have knowledge cut short the disease. This can not be done until a specific has been found—an antidote to the poison.

At the present time, all that we can do in the way of treatment of diphtheria, as in all other specific affections, as small-pox, etc., is to moderate its force, prevent, if possible, complications, and conduct it to a safe issue. It will run its course in spite of everything we can do. In due course of time, if death should not occur before, the action of the poison will become exhausted, or will be eliminated, and then the patient will recover by his own powers, especially if strengthened by the proper tonic and stimulating medicines. Every physician is aware of the *vis medicatrix naturæ*, and, in consequence, that the body endowed with this force, when attacked, puts forth every effort to throw off disease, and will succeed if the enemy be not too strong. The duty of the physician is to see to it that nature has every favorable opportunity for the struggle.

It seems not improbable that, at some time, a specific may be found that will at once destroy the poison. While we know that the disease is caused by a poison, we have as yet not been able to demonstrate what the poison is. No chemist has as yet been able to separate it and study its nature. It may be of a chemical nature, or it may be peculiar fungi, or it may consist in some kind of animalcule. However, I am not disposed to believe in the animalcular theory.

In malignant cases of the disease no treatment seems

to be of any avail whatever. Death takes place sooner or later after the commencement of the attack in spite of every effort on the part of the physician. He is utterly powerless in doing anything to moderate the force of the disease. Sometimes, as I have intimated, the poison is of such malignant character that it kills almost instantly, like a large dose of strychnine—there being no time for external manifestations. Almost the first and only symptom being death. We know in such cases that diphtheritic poison is the cause of death from the fact that diphtheria of a malignant character is prevailing as an epidemic, and probably several of the same family have already died from it.

Mr. Wm. Squire, in "Reynold's System of Medicine," advises the use of both local and general treatment. He considers that in no case can either be safely disregarded. I have been disposed, however, in the case of quite young children to forego employing topical applications, when the little patient was always disposed to resist them, exhausting its strength in its struggles. In such cases the exhaustion brought about has appeared to do more injury than the applications done good. The same authority advises the use of alcoholic stimulants throughout the disease. He states that they are as serviceable early in the disease as in that part of its course when they become indispensable. "A rapid pulse indicates their employment, and heat of skin is no contraindication." The limit to their administration should be calculated, he says, according to the age of the patient, and the amount of bland liquid representing water that can be taken at the same time. Many other writers recommend the free use of alcoholic stimulants throughout the course of the disease. But I consider that it is calculated to do injury to advise the use of alcohol without exception. Very many cases will be met with that do not bear the use of it well. In not a few the effects in small doses is to increase the heat of the skin, induce headache, dull the sensibilities, etc. To persist in the use of it under such circumstances will do harm. Some other stimulant, as carbonate ammonia, which often acts well, should be employed. When it is observed that the force of the pulse is increased, and the skin not made hotter, or, in other words, when used, its action is seen to be beneficial, alcohol may then be properly exhibited, and in quantities limited by the limits

of tolerance. Its beneficial effects, however, should be observed to warrant its continued use; and to use in the notion that the strength is kept up by it, when the unpleasant effects are produced, to which I have alluded, is to commit a grave error. It is, nevertheless, often done.

Dr. Hartshorne recommends the use of small pieces of ice taken into the mouth, and swallowed slowly. Some practitioners, he says, assert this to have a more beneficial effect than any other local remedy. But, of course, it can not be employed with very young children.

A solution of nitrate of silver, one part to three parts of distilled water, is employed by many practitioners with favorable results as an application to any patches of membrane that may be visible, and to the surrounding turgid tissue. Some prefer using the solid stick of nitrate. I prefer the latter to a solution, as, with the stick, the application can be better limited to the parts desired to be touched. When the membrane has thus been removed by the caustic, the applications should be continued to a proper degree to the parts beneath. Dr. Jenner is of the opinion that repeated applications of caustics are injurious. He recommends one single but efficient application of a strong solution of nitrate of silver (ʒj to ʒj of water), as a remedy which may *stay* the *spread* of the exudative inflammation; but that, on the whole, hydrochloric acid and water in equal parts will more frequently attain the object. *Medicinal carbolic acid* (as prepared by Calvert, of Manchester, England), is highly commended by Dr. Aitken.

In mild cases of diphtheria of the tonsils, Dr. Jacobi states that he endeavors to destroy the membrane, but only when it can be reached with ease. In his opinion, the indiscriminate use of mineral acids and lunar caustic have done more harm than good. When he can easily reach the membranes, he usually applies concentrated carbolic acid. Scratching of the mucous membrane and wounding of the epithelium should be avoided, as such accidents assist in spreading the membranaceous process in a very short time to the surrounding parts.

I will mention here, that those who claim for muriated tincture of iron something similar to a specific effect, in the treatment of diphtheria, state that it should be administered in frequently repeated doses, otherwise the

effect will not be obtained. Say, a dose of five to fifteen drops should be given every ten or fifteen minutes, half hour or hour. I remember some time ago of hearing a member of the Academy of Medicine of Cincinnati say, in a discussion, that he had exhibited the tincture in *teaspoonful doses*. Of course it must have been considerably diluted, and taken into the mouth through a tube.

At the beginning of the disease my course is to administer a cathartic, if bowels are constipated. Not a purgative containing calomel, as recommended by Dr. Aitken, although in some cases I might not object to combine calomel with other purgative medicines. Then, if there is fever, which there is apt to be, I prescribe a febrifuge; and as such I not unfrequently prescribe chlorate of potash. Right here I will state, that I have seen it stated that the too prolonged use of this medicine, or excessive doses of it, sometimes excites a fatal nephritis. However, I have never seen any ill effects from it after employing it from thirty to sixty hours. The doses given are from two to five grains in solution. I think this remedy can be used with advantage in conjunction with quite minute doses of the tartrate of antimony—say from the fortieth to the sixtieth grain. In such minute doses antimony will not be found to be a depressing agent by any means. It seems merely to act upon the skin. Such a prescription, similar to the following, is not an infrequent one with me:

R. Antim. et Potass. Trt. gr. ss.

Fl'd Ext. Belladon. f. ʒss.

Potass. Chloratis. ʒj.

Syr. Simp.

Aq. Destill. } aa. f. ʒiss.

M.

A teaspoonful of this every two hours would be proper to a child six years old. To a child two or three years younger I would lessen the amount of fl'd ext. belladon., or substitute the tincture.

On examining the throat and discovering a pellicle easily reached, I would touch it and the surrounding parts with the solid nitrate of silver. Subsequent treatment, that might be deemed necessary, would depend upon the course of the disease and symptoms presented. Every case must be treated with reference to itself.

I have made use of quinine and small doses of ipecacuanha as a febrifuge with satisfactory results. Quinine

is a well-known tonic and antiperiodic; but it is also a sedative and febrifuge in what is termed large doses. As a tonic, when a tonic is needed in the affection, it will receive the preference to any other.

Too great care can not be used to have the patient under the best possible hygienic circumstances. The room should be well ventilated without exposing the patient to cold. The bed-clothing should be kept clean and frequently changed. Cloths containing secretions from the mouth and nose should not be permitted to carelessly lie around, but should be burned. Only those individuals whose presence is needed should be allowed to enter the sick-room; and children especially should be kept out.

Some physicians are in the habit of having shallow vessels, containing some disinfectant, placed about in the room for the purpose of keeping the room disinfected. This I consider absurd. No real disinfection can take place under such circumstances. It has been found by actual experiment that to disinfect a room, fifteen by twenty feet, and ordinarily high, requires many pounds of carbolic acid in solution and sprinkled over its floor and walls. To destroy bacteria in a test tube will require far more effort than would be thought. Some think that where there is an odor of a disinfectant morbid germs, bacteria and micrococci can not preserve their vitality, but it is a mistaken notion. The best mode to disinfect a room is to remove its furniture to the open air, and then thoroughly ventilate it. Tightly closing a room and keeping it filled for some time with thick fumes of sulphur will, next to ventilation, be efficient in disinfecting.

A Case of Morphia Poisoning.

BY W. R. AMICK, M. D., CINCINNATI, O.

Miss N. W——, aged twenty-four, had been suffering with rheumatism for two or three days. Towards evening, on the 22d of February, the pain gradually ceased in the various joints that were affected, and as gradually centered in the inferior maxilla. Various applications were made during the night without relief. In the morning, about half past five, the pain increasing, she went to

a bottle containing sulphate of morphia (P. and W.), and took about one-half a grain, approximating it from her description. Half an hour later she asked her aunt to give her a hypodermic injection of morphia, as what she had taken did not do her any good, and the pain was becoming almost unbearable. Accordingly, her sister administered, as near as I could learn, between a quarter and a half of a grain of the salt hypodermically. About an hour later she complained of an itching sensation all over the body, and would scratch herself like as if she would lacerate the integument. This lasted for some time, and then she began to complain of being chilly, and sick at the stomach. I saw her first about 8 A. M. She was restless; alternately warm and chilly, and had severe headache. Had not slept any, but appeared to be in a half stupor. Pupils the size of a pin's head; pulse, 58; respiration, 12; voice inclined to be croupous. Would become nauseated whenever anything was taken into the stomach. Had vomited some. Says everything appears to be enveloped in a mist, and can see nothing distinctly. Gave her brandy, bromide of potash and strong coffee, and she was to be kept awake by shaking and moving her. Left word that I wanted to be notified in an hour if she did not get better.

When I saw her the second time her condition was as follows: Pulse, 46; respiration almost impossible to be taken correctly, as she would cease to breathe unless shaken, but did not exceed six per minute. Prolabia would become very livid when she was left undisturbed for a short time, the ears having a peculiar drawn down appearance. Pupils about the size of an ordinary newspaper period, or a mere dot. Did not respond to light and shade. Coma marked, and it required considerable effort to arouse her, and then she would immediately relapse. Voice very hoarse and croupous, with almost a total inability to swallow. The uvula and soft palate, together with the muscles of the larynx, being partially paralyzed. Gave her one-twelfth of a grain of sulphate of atropia hypodermically, and then awaited the result, preventing profound coma by constant moving and shaking. Five minutes after the atropia was administered, the pulse had risen to sixty, the breathing was improving, the pallor began to disappear from the face, and the pupils were about the size of a pin head. Fifteen minutes later, or twenty minutes

after the atropia was given, the pulse had risen to one hundred, and the respiration to twelve, with a marked improvement in the appearance of the face, prolabia and ears, with pupils half dilated.

She was not allowed to sleep any during the day, but if left undisturbed for a short time, respiration would become irregular.

At 5 P. M. she still felt drowsy and inclined to sleep. Pupils about two-thirds dilated; pulse, 86; respiration, 15, with a tendency every few minutes to make a prolonged and deep inspiration and expiration. Still has some difficulty in phonation and deglutition. Becomes nauseated when anything is taken into the stomach.

She was not allowed to sleep for more than a few minutes at a time until about four o'clock the next morning, or nearly twenty-four hours from the time the morphia was taken. From this time on she rapidly recovered. Complained the next day of nausea and of vertigo when she attempted to get up, the latter being very marked and troublesome. Said she did not know anything of what occurred during the day that she was under the influence of the morphia, and never felt the prick of the hypodermic needle when the atropia was given. This was also manifest by her not even twitching a muscle at the time. Did not know that a second hypodermic had been given, until after arriving at consciousness she complained of pain at the site of the injection.

Treatment of the Hair.

From the German of Dr. Pincus.

BY L. R. PEET.

SAID a patient once to me: "I had originally a heavy head of hair, which was naturally so richly supplied with lubricating substance that I very seldom had need to make use of oil or pomatum. By degrees, however, my hair became less abundant and lost its shining appearance. Though the loss of hair was great, actual baldness did not ensue, of which I was apprehensive, only a very perceptible thinness, especially on the crown."

I replied by asking him if he had any suspicion of the cause of the change.

"I don't know that I have any theory to offer," he rejoined. "Several years ago I suffered some from thin blood, also from tolerably severe bowel disturbances. At the same time I noticed an unusual quantity of dandruff. The abnormal condition of the blood and of the bowels passed off, but the excess of dandruff continued. A somewhat protracted, though not severe, headache followed, which has lasted intermittingly until now; but I have at no time been compelled by it to stop work and lie down. All these things, indeed, seem to me too trifling to produce the striking change in the condition of my hair."

"In this you are probably in error. The least of your ailments might be the cause of your loss of hair. Of the patients who require my aid, one in three has a tendency to disease of the scalp. The father or the mother may have thus suffered, and older brothers and sisters may have become prematurely bald."

"Is the tendency resulting in loss of hair always inherited?"

"By no means. If that were so, wig-makers would, indeed, flourish—having more to do than they would have time or strength for. Observation teaches that only a general tendency or favoring condition is inherited. If those things which directly bring on disease of the scalp are avoided, even this tendency may have no definite effect. It is with the hair as with the body in general: One having a strong constitution can be exposed to destructive agencies and sustain no material damage. So may a good head of hair bear much that would destroy hair of a weak sort. To preserve the latter great care must be exercised; and such careful treatment should begin early in life. Breaking out on the scalp in childhood should be seen to more than it usually is. In former times breaking out of the kind was considered a sign of active blood circulation. People were shy of healing it, looking upon it as a safety-valve of nature, which must not be interfered with, for fear of transferring it to some vital organ. We now know that cutaneous troubles are almost always purely local, and should be got rid of as soon as possible. If they continue only a short time they seem to act as stimulants to growth; and the hair may increase in abundance; but if they do not soon pass away, they stimulate the scalp to such a degree

that weakness ensues, which may not, however, show itself in the hair for several years.

In reference to later childhood, I would say that the dressing of the hair by girls, so long as they attend school, is of an improper kind. The time in the morning before leaving for school is generally short; the combing is hastily, and consequently roughly done: many hairs are pulled out. I have sometimes found the hair of girls nearly half pulled out or broken off close to the base. This state of things is rather common among the higher class. Such treatment can not be borne by hair of moderate thickness and vigor. If there is time for braiding or twisting the hair into strands, such a method of dressing is to be highly commended; if time is scant, the hair should be cut short.

For adults I would give the following directions: Many persons habitually brush the hair too often, and with too much pressure of the brush. If one goes over the hair lightly, with a brush, once or twice a day, no harm results; but a vigorous application, for the purpose of subduing to smoothness a rebellious hair, or group of hairs, or to remove every scale of dandruff, can not do otherwise than injure the hair. The present fashion scouts the use of hair-oil, for every lady wants each hair to show, so that the appearance may cheat the eye with the impression that the hair is more abundant than it is; and to produce this effect the hair has to be very roughly handled. A good head of hair will bear this form of abuse; a poor one will not. A strong head of hair is lubricated by the fat-glands provided by nature at the base of each hair; but in the case of even a moderately strong hair this lubrication is by no means continuous. Observant persons are aware that their hair is more abundant in appearance some days than others. Such a condition is sometimes due to a greater amount of moisture on the scalp; to some extent, however, it is due to a deficiency of oil-secretion. Where excessive moisture is the cause, the hair is apt to take on the character of hair that has been boiled. With every increase of dampness the hair seems to swell. If this change is from natural lubrication that is irregular of supply, a very disagreeable thing ensues—the hair splits. That I may not be misunderstood, I will parenthetically state that other causes than the one mentioned may produce splitting.

For this affection there is a remedy at hand: it is only necessary to apply oil daily and for some time.

The question may be asked, whether a fluid oil or a pomatum is the better means. I would reply that there is little difference between the oil and the pomatum. As oil gives an appearance of greater thinness than actually exists, I have frequently recommended the use of pomatum when that kind was procurable which was well prepared, from pure materials, and was freshly made. In case the pomatum is quite thick, it may be inferred that there is a good deal of wax in it, which hinders the oil from reaching the hair to such a degree that the appearance of thinness results. If one wishes to be in the fashion mentioned above, one should select that kind of pomatum which is known to contain a goodly proportion of wax; but it must not be forgotten that with very waxy pomatum the scalp and the hair do not receive perceptible lubrication.

I must recommend, with some emphasis, that both oil and pomatum be used in limited quantities. The fatty substances dissolve very readily, producing what we call rancidness, which is always injurious to the hair. If one wishes to give his oil or pomatum a good smell, the best way is to add a drop or two of cologne to that which he is about to use. If one has to be cautious, he should satisfy himself that the odor is pure—does not proceed from rancidness. The moment one perceives that the oil or pomatum is becoming rancid it should be laid aside.

If one uses a lubricating material, a frequent washing of the head is necessary. Soap-water, honey-water, chamomile-water are the best washing materials one can employ. Many have so little perspiration of the scalp that they require a very limited amount of oil or pomatum; and they have so little dandruff that they need no cleansing material at all. If, however, washing is necessary, it need not take place oftener than once a month, and soap-water may be used. But it must be borne in mind that a too frequent or even abundant application of soap-water may irritate the scalp to such a degree as to do injury. This shows itself by a feeling of stretching of the hair, together with dryness, and occasionally a manifest increase of dandruff. In such a case milder remedies will have to be applied. Honey-water and violet-water I have found excellent. The yolk of an egg is a mild

remedy; but after employing it, a great deal of water is needed. Having this last in view, the white of an egg gives less trouble, and is just as good. I most approve of the following wash, which every mother has at hand for herself and children. It has the least tendency to irritate. A table-spoonful of clover (almond, wheat or rye-clover) is put in a vessel of boiling water, and steeped for from two to five minutes. The water is then strained through a piece of linen, and while tepid, or cold, according to wish, applied to the scalp. Sensitive persons should allow a couple of hours for the head to dry. As soon as the hair is perfectly dry, a vigorous application of oil should take place, as after such a washing the hair is in the best condition for absorbing the oil, thus warding off the unpleasant feeling of stretching of the hair.

Such careful treatment of the hair will, in a majority of cases, do much toward preserving it; but there are diseases which rob one of his hair, let him take ever so much pains to preserve it.

I have already mentioned the causes of injury to the hair, which have effects that may show themselves through life: breaking out upon the scalp, and rough treatment, especially by girls. So far as local trouble is concerned, it is highly probable that, later in life, a rough manner of dressing the hair, too heavy a covering for the head, a bad-sitting helmet, blows on the head (as in students' duels with foiled swords), may injure naturally weak hair. Still more questionable is the practice of daily shower-baths. I myself, and many of my patients, owe the premature loss of our hair to such application of cold water to the head. Even the mere frequent washing of the hair with cold water may result in rapid loss. I make this cautionary remark having in mind the course pursued at our water-cure establishments. The daily use of the shower-bath, especially in early manhood, affects the hair very deleteriously. If such baths are unavoidable, the head should at least be protected from the cold water, either by holding the head entirely out of the range of the falling water, or by wearing a cap made of wax-cloth.

It does not seem to occur to most people that injuries which have to do directly with the scalp will inevitably affect the hair. Still less does it occur that even the injury of organs at a distance from the scalp may, through the influence of the nerves, work perniciously upon the

hair. But this assertion labors under no doubt whatever; and any who will closely consider their own experience, or that of their acquaintances, will soon be able to cite many confirmatory instances.

In view of the first-mentioned cases, I can not too urgently impress upon parents and educators to watch over the development of their children or pupils. At the time when the boy becomes a youth and the girl a maiden; when a series of emotions, till then undreamt of, takes possession of them and gives the imagination a concentrated direction and a lively coloring: at that time much of the freshness of life may be lost, much evil engendered: among such evils may be the decided lowering of the tone of the hair, which may not, probably will not, show itself at once, but in after years will certainly become manifest.

Among diseases peculiar to the bowels, acute inflammation affects the hair in the matter of color. Very many cases of premature grayness are attributable to that cause. Chronic affections of the stomach and bowels, in the form of catarrh, generally have a very bad effect upon the hair. Continuous irritation of the liver, also loss of physical vigor, resulting from persistent bowel trouble, injure the hair.

It is constantly asserted, and as constantly controverted, that diseases of the nerve-centers, especially of the brain, work ill to the hair. I find my observations confirming the assertion. Long-continued mental labor, violent emotional excitement, kept up for some time; silent sorrow, persistent vigilance at night—and these are affections of the brain—are injurious to the hair. Now, as sorrow, care and excitement are a part of human life, and can not well be got rid of, and as I would by no means counsel the avoidance of mental exertion, in order that the hair may be preserved, it remains to be considered that a vigorous body may bear a good deal of hard usage, and that the hair of such a body will also bear much. In case there is weakness, not all mental exertion, but all over-exertion should be as far as possible avoided; then if baldness or premature grayness ensues, one must be resigned to it, striving, however, to strengthen the whole system.

I will advise all to learn what tends to produce chronic disease of the hair, and scrupulously to avoid it. One

important way of ascertaining whether the hair is suffering from disease is to count those which drop or are combed out. It is a very tedious thing to do, but will recompense the trouble. In long hair, never more than one-fourth should measure less than six inches. As soon as the counting makes apparent that some remedy should be applied, this may be employed: take from two to four grains of double-oxide of natron, and mix with twelve tablespoonfuls of distilled-water, or rain-water filtered through fulling linen; then, in case of great sensitiveness of the patient, apply on two successive days in the week two tablespoonfuls of the mixture, using a soft brush or small piece of sponge, rubbing it in thoroughly, but not roughly. If the patient be in normal bodily condition, the remedy may be applied three or four times a week, especially on the fore part or the middle portion of the head, as those are most apt to be affected. And let the fluid be so put on that as much as possible may reach the scalp. To do this, where the hair is long, several strokes of the comb, laying partially bare strips of the scalp, should be made. After the rubbing in, a dry cloth should be carefully and repeatedly pressed upon the head, and for an hour or two there should be no exposure to the cold. The fluid may be applied at any time of day that is most convenient. During the remaining days of the week the hair may be dressed as usual. On the first day after the application of the fluid, a little oil, which by smelling is ascertained to be pure, should be rubbed on the hair. In the course of a few weeks it will be found that there is less loss by dropping out. If not much difference is seen, or if there is a return of the disease, the remedy may be used for two or three months. After the first month the frequency may be reduced one-half. In case there is unusual formation of dandruff, a tablespoonful of the best glycerine may be added to the fluid. Of course one must avoid all direct and indirect causes of injury to the hair.

Some of the remedies which I have recommended will alter the color of the hair; but as the hue given is a pleasing brown, few will be likely to object on that account.

If a regular physician tells the patient that he can not cure him, the latter should not have recourse to quacks who promise everything, for it may be taken for granted that the diplomaed physician, though treatment of the

hair be not his specialty, is sure to know more about the functions of the scalp, and about agencies of all kinds that act perniciously on the hair, than a layman who may have read a few medical books and has a hair-fluid for sale.

VALAHA, Florida, March 8, 1881.

Apoplexy or Cerebral Hemorrhage.

Prepared for Cincinnati MEDICAL NEWS.

APOPLEXY or cerebral hemorrhage is due to the rupture of a blood-vessel, and the consequent extravasation of blood either into the substance of the brain or into its ventricles.

To give the student a more correct idea of the nature of apoplexy, I will quote here from Aitken on the pathology of the affection: "The disease was well known in the Greek and Roman schools of medicine, and is of too frequent occurrence, and of too striking a character, to have escaped observation even in the rudest ages of society. Patients have died with undoubted apoplectic symptoms when nothing has been found but congestion of the vessels of the scalp, of the membranes of the brain, and of the brain itself, but without extravasation of a drop of blood. More generally, however, a greater or less quantity of blood has been effused either into the cavity of the arachnoid, into the substance of the brain, or into some of the ventricular cavities. Thus it is that the lesions found in cases which die of undoubted apoplectic symptoms vary very much. Sometimes the evidently congested state of the brain during life leaves no trace visible after death. Such cases have been described as 'nervous apoplexy.' Although much stress is laid upon the fact that 'a sudden pressure upon the brain is necessary to produce the apoplectic state,' yet it is difficult in all cases to account for the proximate cause of the disease by such an explanation; for when the quantity of blood extravasated has not been larger than a barley-corn, it is difficult to account for all the phenomena by mere pressure. When the quantity of blood extravasated is small, the disease is seldom fatal from the first attack; but the rapidity of the fatal issue appears to bear some relation to the vicinity of the hemorrhage to

the *medulla oblongata*; and the effusion of blood into the ventricles is also generally most rapidly fatal. . . . If death takes place soon after a hemorrhage into the brain, the substance of the brain has no other appearance of disease than that of being flattened from the pressure of extravasated blood. If the patient survives a few days, the membranes show marks of inflammatory action. They are infected, thickened, and although dry and pitchy-like in the immediate neighborhood of the clot, have yet some serum effused in other parts of the space they inclose."

Two forms of the affection, differing essentially only in the extent or seat of the lesions, but presenting different symptoms, are to be distinguished; these are the *apoplectic* and *paralytic*. In the first, there is loss of consciousness; in the second, the mind, though perhaps impaired, is not suspended in its action.

SYMPTOMS.—Before the full development of the attack there often is, for several days, a group of symptoms present which indicate cerebral disorder. These are very much of the same character as those denoting the first stage of cerebral congestion, but, though generally not so numerous, are far more striking.

Among the more obvious is a sudden difficulty of speech arising from slight paralysis of the tongue and other muscles concerned in articulation. Words are not pronounced with the usual distinctness; the tongue seems to occupy more space in the mouth than it should, and is not moved with the requisite degree of promptness and rapidity.

Defects of sight may occur, usually characterized by the presence of dark spots in the axis of vision. Such difficulties are due to minute extravasations in the retinæ, and are always of serious importance.

Bleeding from the nose is a common precursor, and when occurring, says Dr. Hammond, without being increased by severe muscular exertion, blows, a dependent position of the head, or other obvious cause in a person over the age of 40, is always to be regarded as a symptom of moment.

Numbness limited to one side of the body is of itself sufficient to excite apprehension. It may be present several days before, or may precede the attack only a few minutes.

In addition there may be headache, vertigo, slight confusion of mind, a tendency to stupor, and vomiting.

None of the premonitory symptoms may be present, and then the attack, if of the apoplectic form, occurs with great suddenness. Even if they have been noticed, there is more or less abruptness in the onset.

Thus the individual is perhaps standing engaged in conversation, when he is instantaneously struck with unconsciousness, and falls to the ground as if shot; sensibility and the power of motion are abolished, and no signs of vitality are apparent to the ordinary observer, with the exception of the slow and labored action of the heart and respiratory muscles. The breathing is stertorous, the lips and cheeks are puffed out with each expiration, and the pupils are generally largely dilated and insensible to light.

Reflex movements are abolished at first, but after a few moments they reappear, and are even more readily excited than in health, owing to the fact that the controlling influence of the brain is removed.

The urine and feces are often evacuated involuntarily.

An apoplectic attack of this character frequently terminates in death without the patient recovering his intellect in the slightest degree. If life should be prolonged for thirty-six hours, the probability of a fatal termination is materially lessened. Prof. Hammond says that he has never seen a case that was instantaneously fatal, but admits the possibility of such an occurrence. Among the reports of several thousand *post-mortem* examinations at Guy's Hospital, there was but one in which death was asserted to have been instantaneous, and that was a case of meningeal hemorrhage.

In very many cases attended with complete loss of consciousness, the course of the disease is not so rapid as in those just described. The patient falls, is comatose, breathes stertorously, and presents a similar general appearance, but after a time consciousness begins to return, and it is possible to partially arouse him from the condition of insensibility. He turns over in the bed, though with difficulty, and may attempt to speak. Articulation, however, is indistinct, for the muscles of one side of the face are paralyzed, and the tongue, from a like cause, is restricted in its movements. The paralysis is found to exist in the limbs of the same side, and in-

volves the loss of sensibility, as well as of motion, though rarely to the same extent. In some exceedingly rare cases, perhaps not clearly understood, the paralysis of the limbs is on the opposite side to that of the face.

The facial paralysis presents several points of great interest in a diagnostic point of view. The affected side is incapable of expression, but, so long as the patient does not attempt any facial movements, scarcely any distortion is perceived. Should he endeavor to open his mouth to spit or puff out his cheeks, the paralysis is at once perceived. Owing to the fact that the antagonism of the muscles is destroyed, the face is drawn toward the sound side, the angle of the mouth being slightly depressed. It is remarkable, however—and the fact is of importance as a diagnostic mark between the facial paralysis of cerebral hemorrhage with hemiplegia and the simple facial paralysis from injury or disease of the eighth pair—that the patient does not lose the ability to close the eye of the affected side.

If the fifth pair of nerves is involved in the lesion, sensibility is impaired, which is never the case in simple facial paralysis, and the masseter and pterygoid muscles, which receive their motor influence from this nerve, will consequently be paralyzed. The ability to masticate on the affected side is therefore lost, and the cheek hangs lower than on the sound side.

The tongue is also paralyzed upon one side. When, therefore, it is protruded from the mouth, the point deviates toward the paralyzed side, owing to the uncompensated action of the sound genio-hypoglossus.

All these paralyses occur on that side of the body opposite to the seat of the lesion. The muscles are relaxed ordinarily, though sometimes they are in a state of tonic rigidity. Generally, however, rigidity, when it exists, is in the muscles of the non-paralyzed side.

The temperature of the affected side, as determined by the thermometer placed in the axillæ, is at first higher than on the sound side, but at a subsequent period it becomes lower.

Another phenomenon is sometimes observed, and that is the rotation of both eyes toward the sound side. This is accompanied by a like movement in the head, so that, if the patient is paralyzed on the left side, the eyes and the head are turned to the right, and consequently, as the

patient lies in bed, the right side of the face rests on the pillow.

Reflex movements can always be excited, especially in the lower extremity, by tickling the sole of the foot. Deglutition, though imperfect, can generally be made to take place by reflex action unless the hemorrhage is in, or in the vicinity of, the *medulla oblongata*.

In the less severe apoplectic form of cerebral hemorrhage, the urine and the feces are sometimes passed involuntarily from paralysis of the sphincters, and are at times obstinately retained from paralysis of the bladder and abdominal muscles.

Such is the first stage of an attack of cerebral hemorrhage marked by apoplexy and paralysis, as ordinarily observed when amendment takes place. We find that there is a second stage characterized by different symptoms. It may begin at a variable time after the occurrence of the extravasation, usually not later than the eighth day. This is the period of inflammation. It is marked by febrile excitement and pain in the head, the latter being often very severe. There is gastric derangement, as evidenced by nausea and vomiting; and convulsive movements of the limbs, with contractions of the flexors of the paralyzed side, are generally present. Delirium is also a prominent feature. Sometimes there is obstinate wakefulness, and at others a strong tendency to coma. This stage may last three or four days, or at most five or six, when it either causes death by extension of the inflammation from the immediate vicinity of the lesion to other parts of the brain, terminates in the formation of an abscess, or gradually ends in resolution, with abatement of the symptoms.

With the cessation of the inflammatory action, the improvement of the patient becomes very marked. His speech is every day more distinct, his mind more active, his paralyzed limbs more capable of motion. Usually the leg recovers power with much greater rapidity than the arm, and thus the patient is able to walk tolerably well before he can raise his arm from his side, bend the elbow, or extend the fingers.

In the upper extremity there is almost invariably a disposition toward contraction of the pectoralis major and minor muscles, by which the arm is drawn across the front of the thorax. The elbow is slightly flexed, the

wrist bent upon the forearm, and the fingers drawn in toward the palm of the hand. These actions may, in a great measure, be prevented by appropriate treatment, and they may vary in extent according to the gravity of the attack. It is a curious fact that the muscles of respiration are never paralyzed in cerebral hemorrhage unless the medulla oblongata be involved.

Trousseau has insisted that when the arm regains power before the leg, the termination is always fatal. That this is the general result there is no doubt; but it is not always the case.

Now, with all these troubles of motility, sensibility may likewise be affected to a greater or less extent. When this is the case, the limbs of the affected side at first feel heavy as if made of lead, and after awhile numbness, as exhibited by a feeling as if ants were crawling over the skin, or water trickling over it, as if pins and needles were sticking in it, or as if that part of the body were "asleep," is noticed. Sometimes the sense of touch is greatly lessened, while the ability to feel pain is scarcely impaired, and indeed is often considerably increased. Again, there may be hyperesthesia of the skin of the affected regions, and pain along the course of the nerves.

The circulation is inactive in the paralyzed limbs, and this, together with the deficient nervous power, tends to cause a permanent reduction of temperature. The difference may amount to as much as five or six degrees, and, as the ability to resist cold is diminished, the patient is obliged to use additional covering on the paralyzed members. From continued disuse, atrophy of the paralyzed muscles always takes place unless suitable treatment be begun at an early period.

Thus far we have only considered those attacks of cerebral hemorrhage which are accompanied with unconsciousness. One other form requires notice, and it is, perhaps, the one most frequently met with. It differs from the attacks just described, in the important fact that it is unattended with unconsciousness.

SELECTIONS.

The Relation of Lupus to Tuberculosis.

BY PROF. MAX SCHUELLER, GREIFSWALD.

(Centralblatt für Chirurgie No. 7, 1881.)

IN an article on lupus of the conjunctiva, P. Baumgarten incidently discusses the relation of lupus to tuberculosis, and arrives at the conclusion that a sharp line of distinction must be drawn between the two diseases. His convictions rest mainly on the histological appearances of lupus (conjunctival and cutaneous) which, in his opinion, vary in many respects from tubercular tissue changes. In the first place, lupus tissue does not have a tendency to undergo caseation, which is, on the other hand, a characteristic feature of tuberculosis. Then lupus granulations quite often enclose irregularly distributed giant cells, a condition which Baumgarten did not observe in tuberculosis. Again lupus tubercles are very vascular, while true tubercles, on the contrary, are distinguished by the absence of vessels. Baumgarten lays stress moreover on his observations of the direct transformation of lupus into cicatricial tissue, while "the formation of connective tissue must be regarded only as an episode in the structural history of tubercle." Finally, the lupus granulation possesses the "faculty of undergoing direct suppuration," which tubercle has not.

Laying aside, for the time being, the conclusions which B. has deduced from this analysis, we may regard his criteria of lupus and tuberculosis as in the main, well drawn. They are, however, correct only in so far as they apply to tuberculosis not in process of development, but when it has attained a more or less advanced age, when the typical tubercular tissue changes have been entirely completed. One may readily become convinced of the fallacy of B.'s points of difference by studying the tubercular tissue changes in the first stages of their development, for which purpose, in the human being, nothing is more suitable than tuberculosis of the synovial membrane in its early stages. Early resections enable us to prosecute the study of the first stages of the tubercular alteration much more frequently than we can by a *post-mortem* examination of other organs, especially the lungs. In synovial membrane I have very often found changes of

structure which coincide in every particular with those which Baumgarten regards as typical of lupus. One finds here, when the disease belongs to the so-called pannous variety (not in all cases, but frequently enough), enclosed in very vascular granulation tissue, the perfectly characteristic giant cells of Langhans, often in astonishing numbers, besides tuberculoid formations (epithelioid and giant cell tubercles) without a trace of caseation. It would not occur to anybody to regard those alterations as synovial lupus and not as commencing tuberculosis, for not only may symptoms of general genuine tuberculosis follow, but tubercles which have undergone caseous degeneration may be found in the adjoining structures; besides true tuberculosis may be set up in rabbits by the inoculation of fragments of the diseased tissue (into the anterior chamber of the eye).

The changes just pointed out, which I look upon as a form of early tubercular inflammation, I have sometimes found in synovial membrane associated with well-marked cheesy tubercular foci in the underlying bone: the latter had evidently occasioned a gradual secondary infection (Gewebsinfektion) of the synovialis. In other cases the above-mentioned changes were present only in the synovial membrane, and were the sole indications of a commencing tubercular inflammation. While caseous degeneration is in general characteristic of tuberculosis, it is, in my opinion, a later and secondary change, for the parts that have undergone the metamorphosis are such as are the seat of a specific tubercular inflammation, and are at the same time product and matrix of the tubercular inflammation. This inflammation necessarily precedes the cheesy process. Now, it is true that caseation often follows very closely on the heels of tubercular inflammation, but in other cases it is deferred for a longer or shorter time, and occasionally it does not set in at all. I have, in a previous paper, explained in detail the reasons why I can not accept the theory of insufficient nutrition being the cause of the cheesy degeneration of tubercle: I am more inclined to attribute the change to the continued and deleterious influence of the tubercular virus present in the foci of inflammation. Just as this noxious agent primarily sets up tubercular inflammation, in the same way, at a later period, it induces caseation. The early or late appearance of the latter depends, *ceteris paribus*,

upon the intensity and duration of influence of the tubercular noxa. But I believe that the nature of the affected tissues also exercises some influence in this respect. The absence of caseation can of itself certainly not disprove the tubercular nature of lupus tissue changes. Moreover, Volkmann and Thoma have observed cheesy metamorphosis even in cases of lupus, which cases, however, Baumgarten has, for this very reason, assumed to be not lupus, but rather tuberculosis of the skin. The previously described character of commencing tuberculosis of synovial membranes shows that vascularity and the presence of large numbers of giant cells enclosed in a granulation-like tissue are not sufficient to differentiate tuberculosis from lupus.

We see, then, that the histological peculiarities of lupus are not sufficiently marked to distinguish the disease histologically from tuberculosis. That the remaining criteria which Baumgarten has advanced are also not conclusive, I shall now proceed to demonstrate. Baumgarten adduces the negative results of inoculations with lupus tissue as argument to prove the correctness of the distinction which he makes between lupus and tuberculosis, evidently having in view Cohnheim's unsuccessful attempts to set up tuberculosis of the iris in rabbits, after transplanting the lupus tissue into the anterior chamber of the eye. My own experiments in this direction have, however, been successful. It is true that Baumgarten tries to diminish their conclusiveness by intimating that it is doubtful whether I actually employed ordinary lupus products or only pseudo-lupus tubercles, since "Schueller has not mentioned an exact histological examination of the lupus masses which he made use of." The doubt is the more unjustifiable, because, in the essay to which Baumgarten alludes, I did not state whether the specimens were examined histologically or not. Besides, in that paper, the inoculations with lupus were only incidentally alluded to; they were described at length in the book to which I have previously alluded (*Origin of Tubercular Inflammation of the Joints, etc.*). While my successful inoculations with lupus material have been but few, they still demonstrate with sufficient plainness that there exists a close genetic connection between lupus and tuberculosis. I would like to add that the specimens had been thoroughly examined histologically, and all exhibited the fea-

tures which Baumgarten himself recognizes as belonging to genuine lupus. My methods of inoculation, which partly differ from Cohnheim's only as regards the seal of their application, can surely not diminish the conclusiveness of the results of my experiments, especially as these were carried out with the most minute precautions against accidental contamination with tubercular substances from the surrounding of loc. citat. If the engrafted material contain really active tubercular virus, the intensity of the subsequent morbid process may vary with the site of the inoculation, but the result must be essentially the same, no matter where the inoculation be practiced. I acknowledge that the anterior chamber of the eye for these purposes offers numerous advantages, the most prominent being the facility with which one can actually see in loco the daily progress of the morbid process. You easily comprehend why this method was not suitable for my purposes. My detailed communications show that my own experiments with primary and also with cultivated lupus material were often unsuccessful, besides giving the reasons to which I attribute my own and perhaps also Cohnheim's previous failures. Inoculations with tubercular synovial tissue are sometimes beset with similar difficulties. The introduction of such tissue into the anterior chamber of the eye, when it was first practiced, also failed to set up tuberculosis of the iris. I am of the opinion that continued trials with lupus substance, carried on after this method, will also yield positive results. Thus, Prof. Hueter was recently so fortunate as to succeed in producing well marked tubercles of the iris by transplanting a fragment of lupus tissue into the anterior chamber of the eye of a rabbit. Their development was, it is true, feeble and long delayed and the general condition of the animal was only temporarily disturbed. In my own experiments with lupus inoculations, I have also observed the relatively late appearance of the tubercles, and the comparatively light, often transient, nature of the general symptoms, as well as their utter absence occasionally.

We see, then, that we may with propriety look on lupus as a species of tuberculosis, which doctrine Friedlander has already maintained because of his histological examinations. However, only experimental researches are to be regarded as convincing. These demonstrate

that the tissue of lupus actually contains the same virus which is active in tuberculosis; only we must assume, from the recognized histological and clinical peculiarities of lupus, as also from the results of inoculation, that in lupus, either a primarily weaker tubercular virus is present than in other tubercular affections, or that its potency is lessened and the intensity of its specific action weakened by the tissues through which it penetrates, as for example the skin and subcutaneous connective tissue. Consequently caseation develops less extensively, and occurs more seldom in lupus tissue, and may never take place. The rarity of general tuberculosis in patients affected with lupus is very simply explained by this supposition. One might assume that the tubercular inflammation in lupus remains permanently, so to say, in a comparatively incipient condition, if we are content to recognize, as I think is necessary, that the alterations of the tissue structure in synovitis tuberculosa pannosa such as I have already described, and the similar alterations of lupus are a form of beginning tuberculosis. The relatively slight intensity and the diminished specific potency of the tubercular virus in lupus, allow agents which tend to incite suppuration to unfold their influence more readily, and thus lead to suppuration in lupus tissue. The same property finally will allow of a relatively greater facility of rehabilitation, of a spontaneous cure of lupus (cicatricial foci), and so on. Volkmann's observations of the occurrence of cutaneous lupus plaques of tubercles in underlying bones and lymphatic glands, which we, too, can substantiate, harmonize very well with these views. In such cases, which are not at all rare, caseation is, as a rule, absent (as Baumgarten also noted in one of his patients), or may set in at a very late period. There is no conclusive ground for separating such forms from lupus as Baumgarten does. In my opinion, they readily admit of the explanation that in these cases lupus developed because the tissue through which the tubercular noxa penetrated is diminished in its activity through conditions as yet unknown to us. Besides it is well known that this virus may attack the skin with unimpaired specificity. When this happens the site of the disease is usually the surface of an already existing ulcer, mucous membrane being affected more frequently than the skin. In connection with our views, it is inter-

esting to note that tubercular inflammation of the skin rarely assumes a progressive character except it be under the appearance of lupus. I will not discuss here the conditions of development of lupus, as my views and observations on this subject have been detailed at length in my book to which I have so frequently referred (Section G 2, "Lupus, Skrofulose, Tuberculose").

The question, "Is there such a thing as syphilitic lupus?" clinical teachers have usually answered affirmatively. Up to the present time I have seen no ground for denying this. I have myself observed lupus in some few subjects of inherited syphilis, but whether this so-called syphilitic lupus is dependent upon the syphilitic virus, or whether it springs from a secondary tubercular infection of the skin, only experimental inoculations can decide. As syphilitic lupus (at least within the sphere of my observation) is usually noticed only in the final stages of inherited syphilis, the possibility of a secondary tubercular infection is very admissible. At the same time I should not find it difficult to assume that the syphilitic virus might, under certain conditions, engender an affection of the skin externally similar to that lupoid alteration, which is more often the result of the influence of the tubercular virus. A case of so-called syphilitic lupus, at present in our clinic, will afford me the opportunity of investigating these questions through the medium of experimental inoculations.

Cardiac Remedies and Diseases.

THE following is an abstract from the Cartwright Lectures, on the Physiological Antagonism between Medicines, and between Remedies and Diseases, by Roberts Bartholow, M. D., Professor of Materia Medica and Therapeutics in the Jefferson Medical College, Philadelphia:

The most exact antagonism has been shown to exist between remedies which act especially on the heart; and we shall now see that there is a similar exactness in the antagonism between remedies and diseased conditions of the heart. If the action of the heart is excessive from a diminution in the energy of the inhibition, we have agents which oppose this state. In that curious affection, exophthalmic goitre, the action of the heart is constantly

much too rapid, and is not infrequently excessively accelerated from the diminution in the inhibitive control of its movements, while the carotid artery and the vessels of the thyroid gland are relaxed and dilated. If the malady is treated by the antagonists to such a condition of the heart and vessels before structural changes occur, it is usually small; and these remedies are galvanism (applied to the pneumogastric and cervical sympathetic), digitalis and ergot, which increase the inhibition and vascular tension, and thus substitute a slow and regular movement for the wild disorder of the disease. In some affections, such a strong inhibitive influence descends along the pneumogastric that the heart is restrained and its movements greatly retarded; or, again, the heart may be slowed by agencies paralyzing the accelerative apparatus or the motor ganglia. The excess of inhibition is overcome by such an agent as aconite, which depresses the functions of the inhibiting nerve; while the paralysis of the accelerator apparatus is overcome by the stimulants of the motor ganglia, such as atropia. Palpitation proceeding from irregular and explosive discharges of nervous force coming from the accelerator nerves is best controlled by such an agent as bromide of potassium, and palpitation resulting from paroxysmal loss or depression of the inhibition by such an agent as digitalis. The most important antagonist to states of depression (provided certain conditions are observed), is, undoubtedly, digitalis; but I am convinced that the employment of digitalis in the treatment of cardiac weakness is frequently carried much too far. Digitalis increases the inhibition, slows the heart by lengthening the diastolic interval, stimulates the heart-muscle, and facilitates the passage of blood into the coronary artery by increasing the force of the recoil, while it also raises the arterial tension. Long continued medicinal doses, however, as well as lethal doses, have been proved to exhaust the irritability of the apparatus on which the action of the remedy is exerted; and the practical deduction is, therefore, that digitalis should be given in moderate doses, and not too frequently, on account of the prolongation of its effects. In the condition of the fatty heart the use of this agent is more than doubtful, owing to the fact that it decidedly increases the arterial tension, and thus imposes additional labor upon the heart. With mitral

lesions the heart is weak and acts quickly (from relaxation of the inhibition), the arterial system has relatively much less, and the venous system much more, than the normal quantity of blood; the arterial tension is low, and the nervous tension too high. Hence, digitalis, as it opposes these conditions, if employed in the proper manner, is indicated, and can be used with advantage; but, as may be inferred from what has just been said, if it is given too frequently or in too large doses, it will cease to antagonize the symptoms on account of which it was prescribed.

The antagonism between remedies and diseases is well shown in the medicinal treatment of aneurism. If the blood-current is slowed, and the caliber of the peripheral vessels diminished, the blood may be caused to coagulate in the sac, when the clot may organize, and a cure, perhaps, be effected. When Langenbach learned of the success of Hilderbrandt in treating urine fibroids by the hypodermic injection of ergot, he determined to make a trial of the same means in the case of aneurisms. His idea seems to have been that ergot, by causing contraction of the muscular fiber of the aneurismal walls, gradually compressed the sac, and thus effected a cure. It has been urged, accordingly, that ergot injections could be of no service in aneurisms of the aorta, since the latter has no muscular coat; but those raising this objection seem to have forgotten the important fact that the solidification of the sac is produced by the coagulation of the blood within it, as well as that the conditions most favorable to such coagulation are a slow action of the heart and increased tension at the periphery, both of which result from the injection of ergot.

In the arrest of hemorrhage the same principles of antagonism are depended upon. No one now thinks of trusting to opium, acetate of lead, tannin, sulphuric acid, and the medley of ancient astringents. Modern pharmacological research has placed in our hands the most efficient remedies for hemorrhage, which are agents whose action is antagonistic to the conditions from which the hemorrhage results. These conditions are increased action of the heart and relaxation of the vessel walls, and the most efficient remedies in antagonizing them are ergot, digitalis, bromide of potassium, veratrum viride, etc. In arresting pulmonary hemorrhage the subcutaneous injec-

tion of ergotin is the most prompt and certain means at our command, while menorrhagia is usually more speedily arrested by bromide of potassium. These remedies may be given in combination with good effect: bromide of potassium and digitalis by the mouth, and ergotin subcutaneously. The application of cold and heat for the purpose of arresting hemorrhage is based on the same principle. The first effect of cold is to cause prompt contraction of the arterioles; but this is followed by their relaxation. Heat, on the contrary, first causes relaxation, and subsequently contraction—the latter being more energetic than that which is primarily caused by the application of cold.—*Medical Record, December 18.*

Primary Cancer of the Liver.

DR. EWART gives the histories of four cases (*British Medical Journal*, Sept. 25, 1880), for the sake of drawing attention to some points bearing upon its diagnosis. An early diagnosis is important, inasmuch as it may be the means of saving the patient from much harassing and drastic treatment. The difficulty of making a diagnosis is enhanced by the facts that primary carcinoma of the liver usually begins painlessly in the substance of the organ, and that it may attain considerable dimensions before attention is attracted to it. In the first three cases cited it probably existed some time before the glands in the portal fissure became sufficiently enlarged to cause jaundice by compression of the ductus communis choledochus. There is reason to believe that the obstruction of the duct is effected insidiously, gradually and painlessly. Especially is this accomplished with freedom from pain when the cystic duct is also occluded simultaneously, or soon after the closure of the common duct. In this way the channels behind become, in a measure, reconciled to an excessive accumulation of bile; the urine becomes dark-colored, carrying off the bile absorbed for some time prior to the date of complete obstruction, and so preventing the outward manifestation of jaundice. When the occlusion is perfected, jaundice makes itself apparent in twenty-four or forty-eight hours, and persists, with an intensity increasing in proportion to its subsequent duration, during the brief remainder of the patient's

life. When the cancer growths approach the surface, causing intense tension of the capsule and irritation of the superjacent peritoneum, pain is doubtless produced. But enormous enlargement may take place without pain or tenderness being complained of. That a large portion of the parenchyma of the liver may be destroyed gradually and painlessly is demonstrated in the case of large hydatid cysts, centrally situated; yet a sufficiency of bile is secreted for the wants of intestinal digestion, the support of the blood, and the maintenance of animal heat; so, indeed, within certain limits, it may be with the invasion of carcinoma. The grand distinction is that, as the growth advances, the malignant or cancerous cachexia is soon developed, with marked and progressive emaciation; and these conditions are much aggravated and intensified if jaundice be present, as is generally the case. It must be recollected that jaundice may occur without pain from enlarged glands due to syphilitic or tubercular growths, or to other causes. The further progress of the case, either toward amelioration or the contrary, will enable the physician to add clearness and precision to the diagnosis during the middle and later periods of life. In most cases, jaundice supervenes about five or six months before death; and, when once developed, it not only never disappears, but becomes more and more marked and intensified. The advent of death is chiefly dependent upon the inability of the kidneys to go on ridding the blood of the bile with which it is being constantly contaminated. —*New York Medical Journal, January.*

Cod-Liver Oil in Phthisis and Bronchitis.

THE value of cod-liver oil in phthisis has more than once been set forth in the *Journal*, and the various attempts to explain its superior therapeutical value, compared with other facts, have been considered. The most probable theory, as we have said, is that which ascribes its remedial action to the readiness with which it is digested and assimilated. We see that this view is taken by Dr. T. Lauder Brunton, in an article in the *London Lancet*, as the following extract will show:

One of the most powerful expectorants is simply a little warm food in the stomach, and in cases of chronic

bronchitis, in which the patients complain of violent coughing immediately after rising, one of the best expectorants is a glass of warm milk, either with or without a little rum, and a biscuit or a piece of bread, about a quarter of an hour before they get up. A little warm beef tea will have a similar effect. After taking this for a short time they generally tell you that the sputum comes away much more easily than before, and they are not so much exhausted by it. But, perhaps, the remedy, *par excellence*, not only in cases of phthisis, but in chronic bronchitis, is cod-liver oil. Persons suffering from long-standing chronic bronchitis will often come to a hospital to beg for cod-liver oil, saying that it eases their cough far more than any cough mixture. Other oils or fats have not this power to the same extent as cod-liver oil. We can not say positively what the reason of this may be, but I think there is no doubt about the fact. My own belief is that cod-liver oil is more easily assimilated than other oils, and not only so, but more easily transformed into tissues themselves. Whether it owes this property to its admixture with biliary substances, or to its chemical composition, we can not say. Dr. Weir Mitchell quotes a remark made by an old nurse, that "some fats are fast, and some fats are fleeting, but cod-liver oil fat is soon wasted." By this she meant that there were differences in the kinds of fat accumulated under the subcutaneous tissues of men, just as there are differences in subcutaneous fats which accumulate in horses. The horse fed on grass soon gets thin by hard work, while the fat laid on when the horse is feeding on hay and corn is much more permanent. Persons fattened on cod-liver oil soon lose the fatness again, and this, I think, points to the power of ready transformation which the oil possesses. Supposing that it does possess this power, we can readily see how advantageous it will be. In chronic bronchitis, and in catarrh and pneumonia, we have a rapid cell-growth, but want of development. The cells lining the respiratory cavities are produced in great numbers, but they do not grow as they ought to do. They remain, more or less, lymphoid cells, instead of developing into proper epithelium. They so rapidly form, and are thrown off so quickly, that they have not time to get proper nutriment, and if they are to grow properly we must supply them, not with an ordinary kind of nutriment, but with

one which is much more rapidly absorbed, and is capable of much more rapid transformation in the cell itself than the usual one. This power is, I believe, possessed by cod-liver oil, and to its quality of nourishing the rapidly formed cells in the lungs in cases of bronchitis and catarrhal pneumonia I believe its great curative power is owing.

The Chemistry of Starch.

A RECENT writer on agriculture remarks: "Although man can live upon food which does not contain starch, still it may be said that the daily want of every human being, from the time he can crawl until he goes into his grave, is so much starch; it constitutes the great bulk of the daily food of those who labor in all countries; and it is never absent from the diet of the wealthy, although their table may be covered with dainties furnished from every quarter of the globe." This is no exaggerated statement of the importance of starch as an article of human diet; and if this were its only claim to our consideration it might well deserve to be made the topic of a "familiar science" paper. We shall see, however, that it has other uses and applications of scarcely inferior prominence.

But what is starch? Chemically viewed, it is a compound of carbon, oxygen, and hydrogen, in the proportions represented by the formula $C_{12}H_{20}O_{10}$. This is perfectly the same as that of *cellulose*, or woody fiber, the substance of which the *cells* of all vegetable tissues are made. We could hardly have a more striking example of dissimilar properties with similar composition. Common sugar and gum arabic are another familiar pair of these *isomeric* compounds, as the chemist terms them, both having the formula $C_{12}H_{22}O_{11}$. In such cases, we must suppose that, though the atoms making up the substance are the same, they are grouped or arranged in different ways, and thus gives rise to distinct qualities in the substances.

Starch is exclusively a vegetable product, and consists of round or oval granules, varying in size in different plants from about $\frac{1}{250}$ to about $\frac{1}{3000}$ of an inch in diameter. In the potato, for instance, they are much larger than in wheat.

They are made up of layers, formed successively about a nucleus or center, and lines marking the layers can sometimes be seen on the large grains. As the grains from the same kind of plant are nearly uniform in size and shape, while they vary much in different species, the microscope will show to what plant starch-granules belong, and thus enable us to detect adulterations of arrow-root and other starchy substances.

Starch is insoluble in cold water, but if the water is heated to about 150° F. the grains swell and burst, forming a paste or jelly. If boiled for some time in water, starch is converted into the soluble gummy *dextrine*, another substance having the same chemical formula. The same transformation takes place in baking wheaten bread, the brownish glazing of the crust being composed of dextrine. It also occurs in the process of digestion, the starch being converted into dextrine, and this into sugar, which is yet more soluble and more readily absorbed into the blood-vessels. The saliva of the mouth and the gastric juice of the stomach have little to do with this process, which does not fairly begin until the food has reached the small intestine. The secretions of the pancreas and of the glands of the intestinal walls have the power of acting energetically upon starch. The layers of the granules are successively softened, detached, and broken up, and the transformation into dextrine and sugar follows. The farther on we trace the starch in the intestinal canal, the smaller do the granules become, in consequence of this gradual disintegration and solution.

It is hardly necessary to say that starch forms a large part of the food of all herbivorous animals, especially those that live upon grains, as well as of man.

It is also the first food of the young plant. It is for this purpose that it is stored up by the plant, and we plunder the depository in order to devour it ourselves. The seed, like the egg, contains an embryo, with a sufficient supply of food to "give it a start in life," or to nourish it until it can draw its nutriment from external sources. An admirable provision of nature this, from one point of view; but when we are told that the embryo plant can not feed on starch, what shall we say of it? The hard-shelled insoluble granules are about as well adapted to the dietetic wants of the infant organism as a peck of walnuts would be for those of a new-born babe,

Even the mature plant could do nothing with them, for it never becomes capable of swallowing its food in solid form. The mighty oak or the giant sequoia of the Yosemite, like the most delicate of seedlings, must obtain all its nutriment in liquid or gaseous form. It derives the main part of its sustenance from "the chameleon's dish" of air, and the rest from the water that it drinks in by its leaves as well as its roots. Solid food must reach it, if at all, through one of these channels; but starch is neither volatile nor soluble in cold water; and starch, as we have seen, is only food packed up with the embryo in the seed.

This arrangement, which seems at first glance so absurd, is, however, the best, both for the plant and for its plunderer, man. It enables the latter to store up the seeds until he needs them; and the former also has its food in a form which will "keep" until circumstances are favorable for its development and growth. Besides the starch, the seed contains more or less *gluten*, a compound which heat and moisture easily decompose, converting a part of it into the ferment known as *diastase*. This has the remarkable property of transforming starch into dextrine, and then into sugar, one part of it being sufficient to produce the metamorphosis in two thousand parts of starch. When the seed is placed in the moist, warm earth, it absorbs a little water, which starts this curious chemical process. The sugar formed is dissolved in the water, which the embryo plant sucks up, and turns the sugar into woody fiber. It is thus enabled to thrust a little root into the earth, and begins to draw its food from without. Next it shoots up a little stem, and spreads its first leaflets to the air and light. It now ceases to be dependent on the seed, and feeds no more on starch, though later in life it goes into the manufacture of the article, and stores it up in seeds, as the parent plant had done in its day and generation.

This conversion of starch into sugar is copied by man in the manufacture of glucose, of which we gave an account in the *Journal* for November, 1880, and therefore need not dwell upon the subject here.

The brewer also takes advantage of the natural change in the seed by which diastase is formed. The grain commonly used for the purpose is barley, which is moistened and exposed to heat until it sprouts. When the gluten has begun to be transformed into diastase and the starch

into sugar, the embryo plant is killed by means of greater heat. The *malt*, as it is now called, is next bruised and soaked in warm water, which dissolves out the sugar already formed, and also the diastase. The latter acts on the rest of the starch, converting it into sugar; and the sweet liquid is then boiled, hops are added, and afterward yeast, to produce fermentation. The details of the process would be out of place here, even if we had space for them.

The use of starch for sizing and stiffening cotton and linen fabrics, though of much industrial and domestic interest, is not a chemical process, and therefore does not come within the scope of the present article.

Lung Disease in the Ox; Successfully Treated with the *Hieracium Venosum*.

REPORTED BY W. STUMP FORWOOD, M. D., OF DARLINGTON, MD.

Secretary of the Medical Society of Harford Co.

ALL physicians who have the true interest of their profession at heart, most willingly and gladly receive and accept knowledge and truth from all sources whatever; and, through careful observation, often acquire much valuable information from various forms of disease presented in the lower animals.

During discussion upon the subject of *Phthisis*, at a recent meeting of the *Medical Society of Harford County*, Dr. H. Clay Whiteford related a case of lung disease in the ox, which was quite as remarkable in the peculiar medical treatment, and consequent recovery, as was the singular character of the disease.

The case occurred years ago, before the Doctor had studied medicine; and he was therefore unable to give the exact pathological condition of the animal, but stated the leading points of the case as they appeared to the unscientific persons who had the ox in charge at the time.

The ox was one of a pair that belonged to the Doctor's father during the former's boyhood. The oxen were kept in constant use, with heavy hauling. The driver, who had the daily management of the animals, had observed for some time that one of them appeared to be sick—had a bad cough, and was losing flesh; but while he was still

able to work he did not mention the fact to the owner, who himself rarely saw the oxen, for the reason that they were out at work very early in the morning, and returned late at night. They were employed during that season away from home. It was only after the ox became so reduced by disease as to be incapacitated for work that the owner's attention was drawn to his condition. He was surprised to find him so ill, and so reduced in flesh, and immediately ordered that he be "turned out."

When the ox was finally released from his heavy, daily labor, his condition was truly pitiable. He suffered with a deep, hollow, and almost incessant cough, similar to that of the human phthisical patient, and with almost every cough, large quantities of dark, thick mucus, offensive alike to sight and smell, would *gush* from nostrils and from *mouth*. This discharge was so profuse at times as to threaten suffocation to the animal. He also constantly suffered, as might be inferred, from the most distressing dyspnœa; and, owing either to this cause, or to a want of appetite—probably both—he was scarcely able or willing to take any food whatever. He was a large-framed ox, but now appeared to be reduced to skin and bone. From the appearances presented, Mr. Whiteford, the owner, did not imagine that it was possible for the animal to recover, or even survive longer than a few days. While reflecting as to whether it would not be more humane on his part to relieve the poor animal's sufferings by hastening his death, one of Mr. Whiteford's neighbors suggested to him the use of a remedy that he regarded as of great value in such cases, viz.: a tea or infusion made from the root of the *rattlesnake weed*—the *hieracium venosum*. Without feeling the slightest confidence in the value of *any kind of treatment*, he yet permitted this simple domestic herb to be tried; particularly as the medicine could be obtained most readily, and without price, the weed flourishing in the greatest abundance in the immediate vicinity. Mr. Whiteford had the infusion made in accordance with the general directions given him, without any special regard to the proportions or strength, and by withholding water and other fluids, the animal was induced to drink of it *ad libitum*, two or three gallons daily.

Within a week or two after the commencement of this treatment, the ox, to the great surprise of the owner,

began to show unmistakable signs of improvement: his cough became less frequent, and evidently less painful; the quantity of mucus discharged gradually decreased, and the distressing dyspnœa rapidly subsided. Within three or four months after the institution of this treatment by the *rattlesnake weed*, or *rattle-weed*, and no other remedy whatever, the ox became fully restored to health. Dr. Whiteford stated, in reply to a query, that he was not informed of any similar case in which the *rattle-weed* had been used, and was unable to explain its virtues or therapeutical action. Neither were any of the members present familiar with the use or medicinal properties of this well-known herb, and our chief object in publishing the report of this remarkable case is to bring forth the experiences on the part of the medical profession in their use of *hieracium venosum* upon the human subject. After the ox had fully recovered his health, to all appearance, the owner, fearing that, if put to work again, he might relapse, therefore resolved to fatten him for beef. Contrary to expectation, the animal fattened readily, thus showing conclusively that his health was fully restored. When finally butchered, it was discovered that one of his lungs had almost entirely disappeared—the atrophied remnant appearing as a hard gristle, about the size of a man's two fists. The other lung, and all other parts of the body, so far as inexperienced persons could judge, was in a perfectly good condition.

Dr. Forwood inquired of Dr. Whiteford if the ribs on the diseased side of the ox were *shrunk in*. The Doctor replied that they were, and that he had forgotten to mention this conspicuous deformity, which was remarked by all who saw the animal. The diseased side of the ox was so contracted as to make it appear almost perpendicular from the backbone downward.

Dr. Forwood rejoined that it was quite a common remark for ignorant physicians to make—or those, more culpable, who presumed on the ignorance of others—that “such a patient's lung had long been diseased, and was now *entirely gone* ;” although the said patient was at the same time able to attend to his usual business, and did not show any deformity of the chest whatever. Dr. Forwood remarked, in continuation, that the entire loss of a lung in the human subject was an event of extreme

rarity, and when it did occur, it was invariably characterized by the marked deformity referred to by Dr. Whiteford in the case of the ox—the contraction being an effort on the part of nature to fill the vacuum.

There are two interesting points in the case here related: Firstly, what was the nature of the malady, and how contracted? points that we have no light upon; and secondly, in what way did the *rattle-weed* act as a restorative?

It is hoped that some of the readers of the *Journal* can and will afford information on these points of interest. It is evident, from the history, that the ox was not suffering with *phthisis*, for that is a constitutional disease that does not result in such a resolution. The probability is that the animal had an attack of *pneumonia*, though we were informed that his illness occurred in the summer, when such diseases are rare; but the most interesting question connected with the case is: how did such remarkable results follow the use of the *rattle-weed*? And why is it not more frequently employed in the lung diseases that afflict mankind?—*Maryland Medical Journal*.

Treatment of Affections of the Fifth Nerve.

BY C. GERHARDT.

(Deutsches Archiv f. klin. Med. XXVI. p. 1.)

A TAILOR, fifty years of age, had suffered for fifteen years from an obstinate neuralgia of the second and third divisions of the left trigeminus—the lingual branch was not affected, but, on the other hand, some single branches of the first division were involved. Compression of the left carotid caused the pain to disappear at once—no other therapeutics had even mitigated its severity—and the points which had been the seat of the pain became insensible to pressure. The patient died of pulmonary gangrene and “gulp-pneumonia.” The left ganglion Gasseri was found surrounded by very vascular connective tissue, and the point of its location had undergone changes from circumscribed pachymeningitis; the bony base of the cranial cavity was rough at different points. (The patient while young had been struck on the left side of the nose with a stone; this injury resulted in a tedious periostitis, which, following one of the divisions

of the trigeminus into the cranial cavity, had become permanently established there.) Some ganglia cells were remarkably pigmented in the external portion of the ganglion; the capillaries were much dilated and completely surrounded by extravasated blood.

Two other cases are reported, one of a woman, and the other of a man, both suffering from reflex spasm of the maxillary muscles. In the first case the lock-jaw occurred after an inflammation of the pharynx and acute catarrh of the tubes and the middle ear. Unmistakable tenderness was produced by pressure along the track of the first and second divisions of the trigeminus at the well-known points, and at the same time anæsthesia of the corresponding parts of the skin. A moderately strong constant current (one electrode on the points of pressure, the other on the proc. mastoid.) relieved the trismus and also cured the *recidives* of the decidedly hysterical patient. She had, at a later period, an attack of aphonia.

In the second patient, similar symptoms had appeared after a cold; the neuralgic symptoms in this case affected the third division of the right trigeminus. While in the preceding case the ear was inflamed, there was, in this case, an inflammation of the mucous membrane between the maxillæ within the buccal cavity. The constant current in this case also removed both the motor and the sensory disturbances.

On the Ætiology of Anthrax.

(Bull. de l'Acad. de Méd. No. 28, 1880. Centralb. Chirurg. No. 1, 1881.)

IN 1878, Pasteur made experiments in infecting animals by feeding them with food containing artificially bred anthrax bacteria. A large number of animals, after a period of incubation ranging from eight to ten days, died with symptoms of anthrax disease. The mortality increased if small pointed bodies, as thorns, were added to the food. Autopsy showed that these animals which had thus been infected artificially presented small lesions in the mouth and pharynx, at the same points as in those animals spontaneously affected. On the strength of these experiments, P. is inclined to believe that the apparently diseased animals had been infected through the food, and

supposes that the anthrax bacteria of the dead and buried animals had been communicated to the food through the medium of the soil where the food grew, and this must have taken place before the cadavers became putrefied, as putrefaction destroys bacteria. P. experimented in this direction, making the experiments more real by mixing the blood of the animals diseased with anthrax, at a medium temperature, with soil which had previously been moistened with urine, and observed the very rapid development of bacteria, which could still be found after months and years. He could also demonstrate the presence of actually living and infectious bacteria at a place where he had buried a sheep which had died of anthrax and had been dissected. The fact that bacteria emigrate from the dead animal to the surface, and also that bacteria developed before burial, on the surface, could still be found there after a long lapse of time, notwithstanding the influence of the plowing, the rain, etc., is proved in a peculiar way. According to P. the earthworms are the carriers of the anthrax bacteria, which can positively be found in the excretions of these worms. If we keep living earthworms in soil containing anthrax bacteria, the latter may, at some time, be found in the excretions. It is, therefore, very probable that these bacteria are washed out of the excretions of the worms by the rain and are taken up with the food by the animals. The practical conclusions which can be drawn from P.'s discovery may be learned elsewhere.

Anasarca in Bright's Disease.

In the treatment of anasarca in Bright's disease the necessity of exciting the skin to action is recognized at Bellevue Hospital.

By means of perspiration much fluid can be removed from the body and the œdematous condition of the patient relieved.

In many cases when no danger exists of the occurrence of œdema of the lungs, pilocarpine may be used to produce this effect. In some cases it is contraindicated by organic or valvular disease of the heart. In these cases the following method is employed in the hospital: The patient is sponged off with alcohol, is then wrapped in a

wet sheet, over which several blankets are placed. In the course of an hour the diaphoresis is usually profuse. The use of alcohol before the pack is recent, and has proved successful. It is supposed to act directly upon the sweat glands as a stimulant, and certainly increases the amount of the sweating produced by the pack. When these means do not produce sufficient diaphoresis, the fluid extract of jaborandi in dose of one drachm is given just before the pack is applied, and as it may produce nausea if given by the stomach, a preferable method of administration is by enema, in which case the dose may be increased to one and one-half drachms. In one case at present in the wards this method is daily pursued with good results. The anasarca is rapidly decreasing. When diaphoresis by the hot-air bath is attempted, the use of alcohol is found to be of equal service, and in cases of uræmic convulsions it has certainly hastened and increased the excretion through the skin—*Chicago Medical Review, December 20.*

Pharmaceutical.

THE invention of the capsule may be regarded as one of the triumphs of modern pharmacy.

The old-fashioned naked pill, with its irregular contour and its nauseous taste, which not infrequently excited in the pharynx an inverted deglutition, whereby the disgusting intruder was tossed up into the region of the posterior nares, there to remain fixed until the unfortunate swallower should dislodge it by vomiting, has become almost if not quite a thing of the past.

The capsule has manifest advantages over the pill, such as ease in swallowing, readiness of solution, together with the protection it affords the medicine against atmospheric influences, thus insuring that it shall arrive in the stomach in the best condition for assimilation; and these facts being well understood by the physician, the term, "*℞t. pilulæ*" at the close of a prescription is not now very often seen.

A capsule to meet the above requirements should consist almost entirely if not wholly of pure gelatin, which, on entering the stomach, appropriates water of composition, and becoming a jelly will readily dissolve and set the contained medicine free.

But the increased demand for capsules, together with a desire to furnish them at a low price, has tempted some manufacturers to use glue and various other cheap and impure compounds in their manufacture.

Capsules made of these substances are sometimes so slow of solution as to seriously delay the action of the medicine, or worse still, resisting the fluids of the alimentary tract to the end, pass out like bullets, unchanged.

Even if they be retained and dissolved they are competent to make mischief, for they carry with them the seeds of fermentation, which may germinate to the prejudice of a delicate digestive apparatus.

Before ordering them for a patient the physician should test a given specimen of capsules by holding one in his mouth until it dissolves. If its solution is rapid, and no unpleasant flavor is perceived, it may be safely used; but if it tarries long upon the tongue, or imparts to the taste a savor of the hide store or the sour paste pot, it should not under any circumstances be given to a sick person.

The old and highly reputable firm of H. Planten & Son, 224 William Street, New York, furnishes an article which will stand any test, and we can conscientiously recommend their capsules to the profession.

They are made of seven different sizes for the mouth and of three for the rectum. The latter are conical at one end, and present a form which may be easily introduced into the rectum, and retained by this organ without discomfort.

Report of a Case of Strychnia-Poisoning Treated by Hydrate of Chloral and Chloroform.

BY BENTON J. HON, M. D.

ON February 25 I was called to see Mr. L. M., of Orleans, Ind., whose wife had given him by mistake about three grains of strychnia sulphate done up in a capsule. I reached the house in fifteen or twenty minutes after the taking of the drug, and found the patient in a state of high nervous excitement, starting at the least sound, while muscular spasm was beginning to show itself by an almost constant twitching in the limbs. The patient also complained

of a sensation of constriction about the throat and chest.

There being no history of poisoning in the case, I was at first uncertain as to diagnosis; but feeling that I must meet existing conditions, and having nothing but a small pocket medicine-case with me, I administered a dose of morphia sulphate. But the symptoms continued, and as the case developed I began to suspect the cause, and sent immediately for ipecac, which I gave in large doses until the patient vomited freely, the morphia probably coming up with the vomited matter.

As soon as the patient recovered from the effect of the emetic, I gave him sixty grains of chloral hydrate. The evidence of strychnia-poisoning was now well marked, for the muscular system was in a condition of tonic spasm. The eyes looked wild and staring, the arms were bent at the elbows and fixed, the hands clinched, and opisthotonus complete. Consciousness, however, was not affected. An examination of the medicine from which the dose had been taken confirmed the diagnosis.

I now resorted to chloroform by inhalation, giving it without stint, and continued the chloral in doses of sixty grains hourly.

I commenced treatment at about eleven o'clock A. M., and at three o'clock P. M. the patient's condition was such that I thought it proper to leave him. At this time he was in a remarkably comfortable state, considering the fact that in less than four hours' time he had swallowed three grains of strychnia, taken a dose of morphia, and two or three drams of ipecac, had vomited freely, and had been subjected to the racking of two strong tonic spasms, the last of which did not succumb until after he had taken one hundred and eighty grains of chloral hydrate, and about seven ounces of chloroform.

From this time on my patient continued to improve, and made a complete recovery.—*Louisville Med. News.*

Pain and Anodynes.

DR. ROBERTS BARTHOLOW, of Philadelphia, says: "Several elements enter into the composition of pain—the peripheral irritation, the transmission of the impression to the center, and its realization by consciousness. Hence, pain

may be relieved either by interrupting its transmission to the centers of conscious impressions, or by suspending the functions of these centers. For example, aconite and gelseminum relieve pain in the former manner, and the anæsthetics in the latter. The anæsthetics, when applied locally, however, have an effect similar to that of aconite, and are, therefore, antagonistic to both peripheral and centric neuralgia. When a few minims of chloroform are injected into the neighborhood of a nerve-trunk, the peripheral expansion of the nerve is put into an anæsthetic and analgesic condition; and since he introduced this method of treating sciatica, cervico-brachial and intercostal neuralgia, coccydynia, and other neuralgias of nerves in accessible situations, his experience has been extremely satisfactory. The needle must be inserted deeply, since merely to inject chloroform under the skin, like morphia, is perfectly useless in such neuralgias, unless the nerve-trunk is in the immediate vicinity. No danger attends this expedient, and inflammatory induration and abscesses very rarely result from it. The most powerful means for relief of pain which is now in our possession—the subcutaneous injection of morphia and atropia together—is an illustration of the advantages derived from the study of physiological antagonism. By this combination the anodyne qualities of the two agents are enhanced, rather than diminished, while the disadvantages of each are in a great measure obviated. The combined use of morphia and atropia is, also, the best preventive of the tendency of anæsthetics, like chloroform and ether, to produce fatal paralysis of the heart or lungs; while the prescription of atropia simultaneously with chloral to a great extent averts the dangers that sometimes attend the use of that agent.—*Nashville Jour. of Med. Surg.*

Uterine Function and Disease.

In studying diseases of the generative organs, we find that the vulvar diseases of children, the vaginal of young women, the cervical and uterine of middle and advanced age, mark usually the order of attack. When two organs hold a functional relationship, and are subservient to a like purpose in the economy, it is a rule that they react

on each other to such a degree that one can not suffer long and deeply without throwing the other into disorder. The os and fundus, being supplied by branches of the same nerve, and a sympathy existing between the structures, influences acting upon the os and cervix will produce congestion of the fundus. Hence, we have dysmenorrhœ, sterility, pelvic pains, gastric disorders and displacements of the womb; and by the increase of vascular congestion, we have an augmentation of secretion—leucorrhœ. The discharge and the condition which it produces tend to, and are apt to cause sterility. Pregnancy and parturition are the great causes of endometritis. Statistics show that pregnancy accounts for more than half. Most writers agree that most uterine diseases take their origin in the lying-in room. Reamy reports that in the examination of eight thousand women, supposed to be suffering from uterine disease, there were but nineteen cases of true ulceration. There are cases when the discharge, passing over the os, produces erosions, just like the acrid discharge from a child's nose will produce erosion of the upper lip. Munde has, in seven hundred women examined, found but three such cases. The term laceration, and not erosion, is better applicable to most cases. Dudley says: "Just translate the words ulceration or erosion with patulous os into laceration of the cervix, and we have the facts." Dr. Cushing says, ninety per cent. of all cases of so-called ulceration are nothing more nor less than laceration. Dr. Emmet estimates that thirty-three per cent. of five hundred fruitful women coming under treatment had laceration of the cervix. Dr. Munde says seventeen per cent., Dr. Hanks eight and a half, Dr. Baker ten per cent. Dr. Goodell says one out of every six of uterine cases have laceration. Montgomery states that fifty per cent. of women having children have laceration of the cervix. Statistics show that forty per cent. are to the left side, fourteen per cent. are to the right side, and thirty per cent. are double. The greater frequency on the left side is thought to be because the occiput is directed to the left side. Chloral is as necessary in the early stages of labor as ergot is in the later. For this lesion there is but one remedy. Dr. Emmet first recognized thoroughly the lesion, and he demonstrated by his operation a rapid and reliable cure. The operation is one of the most simple, and yet one of the most satisfactory, in the depart-

ment of uterine surgery. Peaslee said it was a master-stroke of genius. Dr. Fordyce Barker says his contribution on the subject is one of the most important which has been made to gynæcology. Says a late authority: "The man who succeeded best in the treatment of uterine disease was the one whose treatment was followed by the smallest amount of cicatricial tissue. Dr. Dudley puts the forcible statement, that if the operation was followed by none of the good results so confidently claimed for it, it would be a justifiable procedure, inasmuch as it causes those tissues which have been the object of so much violent and fruitless treatment to be removed from the field of the speculum and from the approach of the porte caustic.—Dr. P. V. Schenck, *St. Louis Courier of Medicine*, February, 1881.

MICROSCOPY.

Further Observations on the Ætiology and Prevention of Anthrax.

M. PASTEUR quotes a note relating to anthrax written by a former ambassador of Saxony at Paris (Baron Seebach) to M. Tisserand, as long ago as 1865, as remarkably confirming the conclusions recently arrived at as to the nature of the disease.

This note states that on the land belonging to the writer a tenant began in 1845 to introduce improvements in the cultivation. With that view he selected as soil suitable to be spread over the ground used during the winter for cattle-pens—which was destined again to be removed, after being enriched by the presence of the beasts, to form manure—the earth from a strip of land which had been for years used to bury carcasses in. This soil was spread over half the space of the pens, and on this half nearly nine hundred oxen were placed. The sheep were placed close to them, and the rest of the oxen at the other end. A few days after this, in one night two of the oxen died, and the next day six more were lost. On the following morning forty-five were found dead, besides a sheep in the neighboring enclosure. This loss continued. At last the earth was removed, the enclosure cleaned out,

and a layer of rubbish a foot deep was spread over the pens. For eight days the losses continued the same, and then began gradually to diminish. In the first fifteen days three hundred and twelve oxen had perished in the enclosure covered with the removed earth, and eight sheep belonging to the neighboring pen. No deaths occurred in the enclosure which was separated from the fatal spot. In the spring the sheep were turned out to pasture on land manured by earth taken from the place where the sheep which had died in the winter had been buried. In eight days thirteen of these sheep died, although the soil had been well turned, exposed to the air and frost, and mixed with lime and ashes; and of ten more which were confined here as an experiment three died in three days. The shepherd had a belief that certain fields were unhealthy and not fit for the sheep to pass the night upon. A field in the corner of which a sheep had been buried was sown with wheat, and the next year with clover, which grew with great luxuriance in the spot mentioned. Some of the clover was taken from the spot by a neighboring woman, who fed her goat and cow with it. The next morning the cow had a decided attack of anthrax, and the goat had already died from the same disease. Hence the germs—derived from the dead sheep—had been transmitted through the clover after nearly two years. After this the plan, hitherto adopted, of burying dead cattle in shallow graves on the pasturages was abandoned for that of having a special place well divided off and set apart for the purpose, with the result that whereas previously to this step the loss of animals had been from fifteen to twenty per cent. per annum, the average was only seven per cent. for the five years following, and after two years had fallen to five, and three years later to three per cent.

While comparing these facts with those obtained recently by confining sheep over the grave of an animal which had died of the disease, and by experimenting on animals with the earth and worm casts from the same place, M. Pasteur mentions an experiment lately performed by him, in co-operation with M. Chamberland, which is a modification of that first mentioned by virtue of the addition of cut barley-spines to the food of the sheep, which was sprinkled on the soil covering the graves; in this instance two, instead of one, out of four sheep died. The tendency of the rough fiber to irritate the mucous mem-

brane and facilitate the action of the germs is paralleled by the apparently similar action of stubble, which is shown by the increase of mortality among sheep when placed among it.

Highest Magnifying Powers.

MR. A. Y. MOORE also refers to the same subject under this title.

It is well known to all practical microscopists that the magnifying power of an object may be increased by eye-piecing to a certain extent, with a continued gain in resolving power. When the limit of resolving power is reached the magnifying power may be further increased, but nothing is gained, except in the apparent size of details already shown. After this comes a period in which the magnifying power may be increased almost indefinitely; but it is now very noticeable that the resolving power is impaired. The aberrations of the objective interfere greatly with the image. In fact, it is here that a lens is frequently said to "break down."

These three stages may be conveniently studied in an ordinary cheap $\frac{1}{4}$ of 100°. With an amplification of 300 diameters such a lens should easily resolve *P. angulatum*, but try as best we can, the lines of *Surirella gemma* will fail to be seen. Now, if a higher eye-piece be applied, giving a power of 500 diameters, this diatom may be resolved. Supposing this to indicate the limit of resolvability of the object, a still higher eye-piece may be used; but the resolution is simply shown larger. This period probably will extend to 1,000 diameters, but if increased much beyond this less is seen at each increase of power.

The extent to which these three stages may be carried is, of course, dependent upon the quality of the objective and its angular aperture. In testing objectives the magnifying power should be carried to the second stage, for a lens is frequently defeated simply because the visual angles subtended by the lines (or dots) are insufficient for recognition by the eye.

In a recent article in the *American Journal of Microscopy* a magnifying power of 100,000 diameters is mentioned, obtained by means of a Wales' $\frac{1}{10}$. From the fact that *P. angulatum* was the extent of its resolving power,

it is seen that the lens was far into the third stage of its magnifying power. Any such increase of power is, so far as practical work is concerned, useless; but the second stage is what we need and want. Frequently details are seen, but are so small as to tire the eyes; while if enlarged by a higher eye-piece fatigue is prevented.

Mr. Moore suggests the question, What is the highest power ever attained and used *without* losing resolving power, and what objectives are best suited to yield such powers? Will a $\frac{1}{25}$ or $\frac{1}{50}$, with lower eye-piecing, give better results than a $\frac{1}{6}$ or $\frac{1}{10}$ with high eye-pieces and the magnifying powers the same? He is only able from personal experience to give the result of using a $\frac{1}{50}$ eye-piece, with a $\frac{1}{6}$ objective of "180°" (or 100° "balsam angle"), giving a magnifying power of 32,500 diameters. With this he was able to see the last three diatoms of the balsam Moller Platte clearly resolved. The lines of No. 20 did not look exactly like "the pickets on a fence," but more like a lean horse's ribs. The eye-piece was not certainly *easy* to use, and sunlight was necessary to see anything at all.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

PRECOCITY A SIGN OF INFERIORITY.—M. D. Delaunay, in a communication to the French Societe de Biologie, has advanced the opinion that precocity is a sign of biological inferiority. In support of his position, he adduces the fact that the lower species develop more rapidly, and are at the same time more precocious than those higher in the scale. Man is the longest of all in arriving at maturity; and the inferior races of men are more precocious than the superior, as is seen in the children of the Esquimaux, Negroes, Cochinchinese, Japanese, Arabs, etc., who are, up to a certain age, more vigorous and intellectual than small Europeans. Precociousness becomes less and less in proportion to the advance made by any race in civilization—a fact which is illustrated by the lowering standard for recruits, which has been made necessary in France twice during the present century, by the decreasing rapidity of growth of the youth of the country. Women are more precocious than men, and in all domes-

tic animals the female is formed sooner than the male. From eight to twelve years of age a girl gains one pound a year on a boy, and in mixed schools girls obtain the first places up to the age of twelve. The inferior tissues and organs develop before the higher ones, and the brain is the slowest of all organs to develop. M. Delaunay concludes his paper by stating that the precocity of organs and organisms is in an inverse ratio to the extent of their evolution.

ADMINISTERING ALCOHOL TO CHILDREN.—We believe it is not an uncommon custom in the country to administer spirit in various forms to infants and children. It is, we think, very objectionable in the absence of medical advice, and but little better than the administration of opium. Two cases of death in one night—that of twin children—are before us, both dying suddenly at Tenby, without being seen by a doctor. They were only eight months old, and the mother's chief idea of treatment seems to have been beef tea with brandy or sherry—very doubtful dietetics at eight months. Death from natural causes was the ready verdict, which we would slightly amend thus: Death from natural and unnatural causes. The kindness of the parents was not at fault so much as their intelligence. The medical man examined said that he could not account for the death, but is afterward reported as saying that teething was enough to explain death.—*London Lancet*.

LOEWENBERG believes that in the majority of cases *fungous deposits in the ear* are caused by the introduction of fatty substances, such as oils, into the auditory canal. These all undergo rapid decomposition in the warmth of the canal, and are transformed into glycerin and fatty acids. The spores of the fungi, which exist everywhere in the atmosphere, terminate rapidly amid such favorable surroundings. He therefore never prescribes any oily substances, but uses glycerin in place of them. When once the fungi have taken root and are growing he employs alcohol against them.—*Dr. C. S. Bull, A. M., M. D.*

THE CONVICT, DR. BUCHANAN.—Buchanan, the foster-father of bogus medical diplomas, entered the Eastern Penitentiary at Philadelphia a few days ago with his head covered by a sack to prevent his knowing the location of his

cell. He had been confined up to that time in the county prison, but now he is a convict in the penitentiary, fulfilling the sentence passed on him for conspiracy to defraud the United States of his bail. There are other charges still pending against him. Thus ends for the present the career of the celebrated "doctor."—*Medical Record*.

BOOK NOTICES.

LECTURES ON DISEASES OF THE RECTUM AND THE SURGERY OF THE LOWER BOWEL. Delivered at the Bellevue Hospital Medical College. By W. H. Van Buren, M. D., LL. D. (Yalen.), Professor in Bellevue Hospital Medical College, etc. Svo. Pp. 412. New York: D. Appleton & Co. Cincinnati: R. Clarke. Price, \$3.00.

The rectum is not mentioned as much in poetry as the heart or head; nor are its praises or those of its functions usually celebrated in song; nor is it the theme of conversation to any large extent in the parlors of the refined and polite. Among all classes of the laity there is a disposition to ignore it as much as possible. If at any time a hint as to its offices is forced, the greatest wariness is used in order that the profoundest secrecy may be observed, and not a word be overheard. If by any accident that could not possibly have been provided against, a lady has discovered that she has made it known to a gentleman that she is aware that she possesses a rectum, she feels as if she never wanted to look him in the face again.

Notwithstanding, however, that all these are facts which we have stated, yet there is scarcely an organ in the body more important than the rectum. Certainly there is none whose morbid condition is capable of producing more discomfort. How miserable is life rendered in many persons by the piles! In others every comfort in living is destroyed by prolapsus of the rectum, stricture of it, fistula terminating in it, cancer of it, etc., etc. A clear conscience is no more necessary for happiness in this world than a healthy rectum. We have met with many persons of wealth who would give their whole fortunes willingly to purchase, if it could be done, a rectum that had no ailment.

Notwithstanding a frowning world, therefore, the dis-

eases of the rectum are worthy the most profound consideration of every humane physician who desires to make life comfortable and happy to every one who is willing to pay him well for it. But there are no class of affections more difficult to treat than those of the rectum, especially those of a chronic form. The consequences are that many drag out a miserable existence for years suffering from uncured hemorrhoids, or a prolapsus, or stricture, doctoring with quacks of all kinds, stating that regular physicians had failed to cure them. This is a stigma upon the profession that should not exist. Negligence on the part of general practitioners to qualify themselves to treat these diseases is the cause; and this could be easily remedied by studying such a work as the one before us of Dr. Van Buren.

The work has now reached a second edition, showing that the short time it has been before the profession it has gained for itself a high esteem. The author has had large experience in the treatment of rectal affections which he has embodied in his work. It embraces twelve lectures illustrated by numerous wood-cuts, exhibiting various pathological conditions. The discussion of the different disorders is plain and practical, and a treatment, in each instance, suggested which observation and experience has approved, and which the physician, who studies and applies it, will find it to be highly successful.

A TEXT-BOOK OF HUMAN PHYSIOLOGY: Designed for the Use of Practitioners and Students of Medicine. By Austin Flint, Jr., M. D., Professor of Physiology and Physiological Anatomy in the Bellevue Hospital Medical College, etc. Illustrated by Three Lithographic Plates and Three Hundred and Fifteen Wood-cuts. Third Edition, Revised and Corrected. Imperial 8vo. Pp. 978. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, \$6.00.

This very magnificent work we have noticed before. It has reached a third edition since 1875, which shows a high appreciation of it by the profession. In these days, when abridged works are in demand by students as text-books, it is a very limited period for so large and expensive a work to reach a third edition in less than six years. We mean expensive compared to the price of the quite small works on physiology prepared for students. Considering

to subscribers of each annual library of twelve books, for our readers not to be familiar with it.

We learn from the publishers' preface that this volume is one of three written by its distinguished author upon "Diseases of the Kidneys and Urinary Derangements," and is intended to be a complete treatise upon the subject of which it treats. Although one of three devoted to the consideration of the same class of diseases it is independent of the other two.

For the information of our readers we will quote a paragraph of chapter III., on the "Pathology of Tubal and Diffuse Nephritis:" "In the more acute varieties the inflammatory action, in its early stage, is accompanied by a great increase of blood in the gland, which becomes perhaps more than double its usual weight. I have related an instance in which the capsule was burst, nearly symmetrically in both kidneys, from the extent and suddenness of the tumefaction. But much and early as the kidneys are often swollen from tubal nephritis, such a result is exceptionable. The surface remains perfectly smooth, but there is a remarkable increase of vascularity. The vessels which divide the surface into lobules, and in health are but faintly seen, become intensely injected, sometimes so as to give an almost uniform redness to the surface. The stellate veins which are seen in a later period of the disease are as yet absent. The capsule is loose and thin, as in health. On section the inside presents a red or chocolate color, and drips with blood. The pelvis is injected. Underneath the blood, by which the tissue is obscured, a light colored or buff deposit exists, which does not belong to the healthy kidney. This becomes more evident when the surface has been washed. The Malpighian bodies stand out as red dots. It may happen that though the disorder be no less acute, the congestion will be less conspicuous than the increase of bulk. The color may be whiter than in health, though the cut surface exudes blood freely, and the whole organ is obviously injected. But the vascularity is marked by the opaque white epithelium which distends the tubes; and the cortex, which is generally increased, looks as if it consisted of two materials: a red and buff, coarsely intermingled. The cones are less changed than the cortex, being simply congested.

"Under the microscope, the cortical tubes are seen to

be stuffed with an opaque brown material, which, so long as it remains in the tube, does not display any structure, but looks uniformly granular. Spread out on the glass it is seen to consist of cells of epithelium, not changed excepting that they may be stained of a brownish color, besides blood corpuscles and indefinite granular matter; the latter probably resulting from disintegration of the epithelial cells. This condition is most marked in the convoluted tubes, but the straight usually contain more or less of the same material. Besides the cell growth there is usually fibrinous exudation in the tubes. In some cases this is fatally abundant."

In the treatment of nephritis attended with albuminuria the author recommends diluents. He regards copious draughts of distilled water daily as beneficial, or soda water, or water acidulated with cream of tartar. Hot water baths or vapor baths he considers deleterious. He considers that a copious flow of water through the kidneys should be brought about if possible, that they may be kept washed out—otherwise the tubuli become clogged by deposits within them. They should be relieved, however, as much as possible from the elimination of nitrogenized material. Food having such elements in large quantities should be avoided. He advises the free use of milk. Hydragogue purgatives he considers as injurious except in the latter stages when there are dropsical effusions. The two prime objects to be kept in view in treatment is to save the kidney labor, and to keep the tubuli from becoming blocked up.

We have no hesitation in commending the work as one of great value, and in recommending it to our readers as an authority in the diseases of which it treats. It contains several very beautifully colored plates, which alone are worth the price of the book. They illustrate the condition of the kidney under different pathological circumstances better than any colored plates we have ever before seen. Besides these, there are numerous excellent woodcuts.

A TREATISE ON THE MATERIA MEDICA AND THERAPEUTICS OF THE SKIN. By Henry G. Piffard, A. M., M. D., Prof. of Dermatology in the University of the City of New York. 8vo. Pp. 357. New York: Wm. Wood & Co. Cincinnati: Wm. Stacey. February, 1881.

This work also belongs to the series of "Wood's Library of Standard Medical Authors" for 1881.

On the title-page there is printed in Latin the following motto, which is to explain the object of the work: "*Morbi epidermidem, epithelium, cutim, et cellulosa[m] membranam afficientes tam multi sunt, ut vix in ordinem patiantur redigi; ex medicamentis autem quæ maxime ad eorum morborum curationem sunt in usu, hic proponemus.*"—DE GORTIER (1740). We translate as follows: "There are so many diseases affecting the epidermis, epithelium, skin, and cellulose membrane that they scarcely permit to be reduced into order; but the remedies which are mostly in use for the cure of these affections, we here set forth." We would judge from this quotation from Gortier that he felt more competent to treat skin diseases, than he did to diagnose them. It may be that, like some of our modern doctors, he treated all skin diseases the same way, and did not trouble himself about discriminating differences among them.

The title of the work very well explains its scope. Part I. contains a list of medicines that are known to exert an influence upon the skin, and the affections in which they are employed. The second portion of the work describes the various skin diseases, and the method of diagnosing them, and also how their various remedies should be applied. The work will be found useful for ready reference. It contains an unusual amount of valuable practical material. If not ranking among the most valuable of the series of the library, it will be esteemed worthy of a place on a physician's book-shelves.

MINOR SURGICAL GYNECOLOGY. A Manual of Uterine Diagnosis and the Lesser Technicalities of Gynecological Practice. For the use of the Advanced Student and the General Practitioner. By Paul F. Munde, M. D., Prof. of Gynecology in Dartmouth Medical College. With 300 Illustrations. 8vo. Pp. 381. New York: Wm. Wood & Co.

This book has been written for the purpose of describing in detail many minor gynecological operations that are not well explained in other works. Larger works, like that of Thomas and others, make but brief mention of the minor technicalities and manipulations commonly employed in the diagnosis and treatment of diseases of

women. Their pages are mostly filled up with discussions of the pathology and treatment of the important affections to which women are liable, and can not necessarily embrace in their scope instructions in making examinations, in manipulations, etc., which, nevertheless, are highly essential for making correct diagnoses. It is presumed in such works that the reader is already possessed of such knowledge.

The author's descriptions are so in detail and so very plain that a student would have to be dull indeed who would not thoroughly understand them. He could not have advantages superior to the instructions afforded by this work, unless he were in a hospital witnessing the manipulations of those who were expert and was instructed by them. If we had space we would copy some of the descriptions of manipulations for the purposes of diagnosis that it might be seen how successful the author has been in making everything plain.

The work certainly can not help but become in great demand by students and young practitioners, containing, as it does, so much practical matter that is not found elsewhere. It is a work that, when possessed, a young physician would feel that he could not get along without.

A TREATISE ON DISEASES OF THE JOINTS. By Richard Barwell, F. R. C. P., Surgeon in Charing Cross Hospital, London. Illustrated by Numerous Engravings on Wood. Second Edition, revised and much enlarged. 8vo. Pp. 463. New York: Wm. Wood & Co. Cincinnati: Stacey & Co. March, 1881.

The author states that in this edition the work has been entirely rewritten, containing but a few words here and there that were in the first.

The first chapter of the work is devoted to describing the pathological anatomy of joints, and in doing this the author exhibits his very thorough knowledge of the subject. The chapter is illustrated by a number of cuts illustrating well the microscopical appearances of various tissues. The author here demonstrates the necessity of a knowledge of the normal and pathological anatomy of joints in order to have any correct notion of the various diseases affecting them, and to understand the principles of their treatment.

It has been supposed by some that the cells of bone

have no nuclei; but he puts all doubts on that subject to rest by stating that he possesses many specimens prepared for the microscope in which the nuclei may be seen as small rounded bodies attached to the walls of the lacunæ.

As it will no doubt interest the most of our readers, we copy the description of bone. All, of course, have an idea of what constitutes bone, but not every one can give a description of it: "Bone is to be considered simply as a connective and areolar tissue, the ground substance of which has been saturated with lime salts. In it are all the elements of that tissue as they may be found surrounding a vessel. There is the space in which the little vascular branch lies (Haversian canal); around it are arranged connective tissue corpuscles (bone cells) lying in cell spaces (lacunæ) and provided with branches (canaliculi). But these parts, which represent the yellow element of areolar tissue, do not stand alone. In the lamellæ a little care and skill will bring into view the fibrous and often wavy form of the intimate bone tissue itself, which is evidently calcified white areolar structure; for many occurrences in the process of ossification show that the primordial cartilage becomes quite changed by peculiar cell arrangement and proliferation previous to the deposit of lime. But of course it is to be noticed that no joint surface lies immediately upon hard, solid bone, such as composes a shaft, but upon a reticulated or cancellated structure; *i. e.*, upon the epiphysal ends of long, or as at the carpus and tarsus, upon short bones."

Affections of the joints are very common, and there are no diseases which require more skill in treatment. Works on surgery treat of them, but, embracing, as they do, so many other topics, but brief attention can be given them. Besides, authors of general works on surgery, probably, in only a few instances, have made them a special study. When a physician has had brought under his care a case of a disease of an important joint, as the hip or knee-joint, he desires all the information that can be had from a work the writer of which has given such affections much attention and has had large experience. If general practitioners would have on their book-shelves such a work as this and properly study it, they would not feel the necessity, in so many instances, to send their patients, suffering with joint affections, to some distant

city to be treated by a specialist. Specialism is yearly on the increase, and the reason is that so many medical men limit their knowledge to the information contained in their text-books, seldom purchasing a monograph devoted to some particular disease, and studying it.

An examination of Mr. Barwell's work convinces us that it is a most valuable one, containing a large fund of information, in regard to a class of diseases, much needed by a large number of practitioners. It embraces in its scope all the diseases of all the joints liable to disease, and their causes—not only those which involve the whole joint, but those limited to parts of the joint or to some of the membranes or tissues forming it or in its neighborhood. In its present improved form we believe the second edition will meet with more demand than the first.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

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We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

PUBLIC CHARITY.—The Bible says: "The poor ye always have with you," and it is probable that the poor will always be with us. There are so many causes for

poverty, subjective and objective—both in the individual and in society—that it is probable that it will always exist. Misfortunes, disease, crime, and selfishness will last while the world lasts, and consequently there will always be those not having enough of the world's goods to supply necessary wants, and those who will abound in wealth. Without crime, vice, injustice, sickness, or indolence existing, which seem to be the most prolific causes of poverty, the fact that every one has a right to exert all his talents to secure wealth, and is awarded the privilege of continuing to hold as his own all that he amasses, and to devise to whomsoever he pleases when he comes to die, and in case he does not will it to any one, the law bestowing it upon his family, this fact, to repeat, would alone, sooner or later, bring about such an unequal division of property that while some would have vast riches, many more would have only sufficient to maintain themselves, and not a few would be in abject poverty. In the struggle for existence, it seems to be overlooked that men differ in talent and ability to acquire property, and that, therefore, the weaker, or those who are deficient in these qualifications need assistance in the struggle. It is acted upon that, in qualifications, they are equal, and therefore, in time, when it is found that a few not only have all that they need, but greatly in excess of it, and though many have only just enough, and some nothing at all, it is assented to that it is right—the events are not found fault with. But all men have to die—the rich as well as the poor. The estates of the wealthy being divided among many heirs, who scatter, may be waste it, is the greatest check on the tendency to the unequal distribution of property.

But we did not set out to write an article on political economy, however much that branch of learning may have to do with medicine as a collateral science. Physicians have much to do with the poor and distressed, and consequently are much interested in the means instituted for their relief. In fact, eleemosynary efforts depend very much on members of the medical profession for success. There could be no hospitals without them, no lunatic asylums for the restoration of reason. The physician is a *sine qua non*, almost, whichever way one may turn in taking steps for the relief and amelioration of the condition of the poor and needy. If his prescriptions be not

directly required, his learning in sanitary subjects will be essential. A physician's profession is such as to make him deeply interested in charitable undertakings and most anxious for their success.

An ancient mode of distributing charity was to give money to an applicant for it who represented himself to be poor, and who carried upon his person the outward and visible signs of poverty, which usually consisted in tattered and dirty clothes and a dirty and foul person. To such a mendicant a piece of money was given of a value corresponding to the donor's means, modified more or less by his sympathies and generosity of his nature. After this gift no further thought was given that recipient unless he again presented himself for another donation, which was repeated or not according to circumstances. By gifts of this kind a charitable man exhibited his charity, performed his works of mercy. If called upon to relieve a family whose head was probably prostrated by sickness, he would send some food with a dollar may be in money, and, if needed, a load of coal or wood. It did not occur to him that charity could be rendered in any other way. It seems never to have been thought of by any one that there could be such a thing as a systematic charity, a charity that included something more than the giving of a small piece of money to each applicant for relief, with but little thought whether the applicant was worthy or not, that embraced every part of the man that needed administering to—not only his physical being as regards food and clothes, health and cleanliness, but also his moral and mental nature.

But humanitarians, in these latter times, have made great progress. They have taken steps which, if continued in, will revolutionize the bestowing of charity, reforming of the criminal and vicious, the rearing and educating wayward and incorrigible children. In all large cities there have been from time immemorial, so far as we know, Infirmary Boards, as they are termed, to furnish aid to not only the out-door sick, but also to render assistance to the poor generally in the way of supplying them with fuel and a few essential articles of living, or a few groceries. In Cincinnati the Infirmary Board has consisted of three directors, with a salary of about \$1,500 each, and a clerk or book-keeper, with about the same salary. This Board appointed in each of the twenty-five wards an

overseer for the poor, whom they paid \$200 a year. The directors are elected by the people—the political parties—and have always been chosen without any reference to their qualifications for the position. The overseers, consequently, have always been appointed in consequence of their party service. As might be expected, these political sharks and bummers have expended the money for the poor of the city in a way more to advance their own political interests and that of their party than to relieve the worthy poor. Besides, their salaries and office expenses amount to more than the poor receive. It is certainly a faulty system of relief that requires more money to meet the expenses of distributing relief than is expended in relief, even if what is expended in relief is properly used. We have not been informed how much the poor fund amounts to each year in Cincinnati, but we feel sure that at least 60 per cent. is paid in salaries and office expenditures. Of the remaining 40 per cent. but very little of it goes to the aid of the poor who most need it and are most worthy of it.

But, in the course of the advance in knowledge of charitable relief, it has been found that the giving of money to a needy person is the least part of it. A man who is given a meal to-day will be just as hungry to-morrow, and unless it is the intention to feed him every day, but a little favor is done him by giving him a single meal. His final starving to death would be deferred only a few hours. While it is very humane and right to feed him, yet something more should be done for him, that he may not have to beg any longer. Namely, he should be put in a way to help himself. Employment should be found for him that he may be self-supporting, and be useful both to himself and the community.

But we will stop here and continue the subject in our next number, assuring our readers that we design to keep within the pale of professional matters.

ALCOHOL AS A CAUSE OF RENAL DISEASE.—Not a few medical writers regard the habitual use of alcoholic beverages as a prolific cause of renal affections. Doctor, now Sir Robert Christison, states that three-fourths, or even four-fifths, of the cases of granular degeneration of the kidneys which occur in Edinburgh, are referable to a greater or less degree of intemperance. Dr. Dickinson, however,

thinks that this statement may be interpreted to mean that the majority of Scotchman drink whisky to an intemperate extent. We, on our part, are disposed to agree with Dr. D. that an agent which is powerful for evil is certain to be credited with mischief which it has had no share in producing. There is no disputing that the effects of liquor drinking are most calamitous—calamitous as regards its effects on both body and mind, and, we would say, soul, too, if it were not that by including it, we might be charged with going beyond our professional limits. But because it is prolific of evil, it does not follow that it is the cause of all the evils that may fall upon one who unfortunately indulges in it, even though it be in excess. Some pious people are disposed to ascribe to the Devil all the sins they commit; but we have the highest theological authority to the effect that the source of very many sins is in the individual himself, and that his Satanic majesty, although very wicked, indeed—so much so that his wickedness can scarcely be exaggerated—yet he is quite innocent of many that not a few are disposed to charge upon him.

Dr. Dickinson has taken great pains to ascertain the effects of the intemperate use of alcoholic beverages upon the kidneys. He has made many *post-mortems* of those who have died from delirium tremens, and of well known drunkards who have died from accident—by violence or suicide. The result of his observation is that lardaceous changes may at once be put aside as having no association with this cause of disease. Great alcoholic excess may produce acute renal inflammation and the large white kidney, but the disorder of this origin is exceedingly infrequent compared to the instances in which it is traced to other causes. Sometimes it has seemed that subinflammatory tubal changes occur, evinced by various degrees of congestion and enlargement of the gland, and, as in other organs under the same influence, the epithelium may become fatty. Besides these interstitial fibrosis is occasionally recognized. It should be kept in mind, however, in noting these morbid conditions in the kidneys of drunkards, it is taken for granted that when discovered they are the results of intemperance. But it is not at all unlikely that if the kidneys of as many other persons were examined, who had died from accident or other diseases than kidney affections, as during an epidemic, not a

few of them would exhibit signs of kidney disease. A great many who had died of delirium tremens, and probably, therefore, excessive drinkers for a long period, showed no evidence of kidney affection.

Diseases of the liver are far more apt to be directly produced by intemperance than diseases of the kidney. Dr. D. found in forty cases of cirrhosis of the liver, in which that change had occurred independently of disease of the heart, and was for the most part associated with spirit drinking, the kidneys were found to be granular but in eight, this disorder being generally in a comparatively early stage. Although Dr. D. does not mention it, it is very likely that in these eight instances the kidney changes were directly caused by the morbid condition of the liver, and indirectly only by the use of alcohol.

Alcohol, when taken into the system, passes through the liver before it reaches the kidneys, and, if not in the blood in excess, will be eliminated by the liver and lungs. The urine smells of liquor when an individual has drank to intoxication. Dr. Ogston relates a case in which the urine of a person, who had died drunk, gave off the vapor of alcohol so thick that it caught fire when a blaze was brought near it. When the blood is loaded with it, the secretion of every gland in the body seems to contain it. Under such circumstances the skin exhales it. We have known a large room to be pungent with the fumes of whisky almost immediately on a drunken man entering it, being exhaled not merely by the breath, but by every one of the millions of pores of the skin.

The effect of alcohol upon the organs, with which it comes in contact, is to increase the fibrous tissue, and renal fibrosis follows, no doubt, sometimes directly from the action of alcohol. While other affections, too, may result from it, as renal granulation, etc., yet these are excited by other causes more readily than by alcoholic spirits.

Alcohol originates diseases enough, and those of an incurable character, for it to be at all necessary to ascribe it as a cause when the evidence that it is so is not at all conclusive, in fact, is rather to the contrary. Eliminated by the liver and lungs, when taken into the system in a small amount, and only reaching the kidneys when incorporated in the blood through an excessive quantity having

been drank, it certainly can not be regarded as prolific of kidney affections.

DECEASE OF F. A. NOBERT, THE EMINENT OPTICAL PHYSICIST.—We learn from a copy of the *London Times*, recently sent us by a friend, that Nobert, the great optical physicist, of Borth, Pomerania, has died. Microscopists, who take an interest in the resolution of fine lines by lenses of great angle of aperture, are familiar with the rulings of this gentleman of exceedingly fine lines on glass by a diamond. They have been famous the world over, and many have been the microscopists of this country and Europe, who, with newly purchased objectives of high price, and guaranteed tremendous angle of 180° or less, have sweated and strained their glasses to almost exploding them in attempts at resolving the noted 19th band of the test plate.

For the information of our readers who are not familiar with microscopical subjects we will state that Nobert ruled on glass by means of a diamond successive bands of lines of increasing fineness of division, from the rate of 1,000 to the Paris line to 10,000 (equal approximately to 112,000 to the English inch). It was formerly Nobert's opinion that the last four bands of his nineteenth band plate would never be seen resolved in the microscope. This opinion he was constrained to withdraw after careful inspection of photographs of the whole series of bands by Dr. J. J. Woodward, of the Army Medical Museum, of Washington, from which an actual count of the lines actually ruled was made by Dr. Woodward, and admitted by Nobert. Nobert then proceeded to make a new plate of twenty bands of lines, varying from 1,000 to 20,000 to the Paris line. The lines on the tenth band, in this latter plate, correspond in fineness of division to the nineteenth band of the former plate. The microscopists of the future have, therefore, Nobert's legacy before them to resolve the lines on the later test plate. Mr. Nobert was very silent as to the method of engraving his fine rulings, and it is doubtful if he has communicated to any one the secret of his process of making and adjusting the ruling points.

For the information of our readers, who are not versed in microscopical subjects, we will state that to resolve the former nineteenth band of Nobert's typen plates, now the tenth, requires not only the finest quality in a microscop-

ical lens, but also the greatest angle of aperture, with necessary apparatus for arranging the light. Up to the present time it measures the limit of capacity of the nearest perfectly constructed microscopical lens ever made.

To give the nearest approach to an idea of the exceeding fineness of Nobert's finest lines, we will state that an Englishman, whose name we can not just now call to mind, although we have one of his specimens, engraved on a glass, with a diamond, the Lord's Prayer in so small a space that if the whole Bible, Old and New Testament, were engraved in a like degree of fineness, they would be contained in a considerably less than a square inch. This engraving can easily be read with a common quarter inch microscopic lens of 75° angle of aperture, while, as has been stated, Nobert's lines require, in order to be rendered visible, the finest lens, from a quarter to one-tenth inch in magnifying power, of 175° to 180° angle of aperture, with all the modern appliances in the way of accessory apparatus for managing light. It is beyond the power of human mind to comprehend the fineness of the lines.

WITHOUT CREDIT.—Since our last issue we have received a letter from Baltimore, informing us that several months ago we had printed in the *News* an article without giving credit to the source from which we had copied it. The name of the author of the article, however, was stated. We regret to say that we have mislaid the letter and can not give the title of the article or the journal from which it was stated we had taken it. We have now not time to make an extended search, but will endeavor in our next to give particulars. We are always desirous to give credit to whomsoever credit is due.

In the last, or March, number of the *Medical Advance*, published in this city, a homeopathic journal, is printed an editorial of the *News*, entitled "Not Much In It." It is neither mentioned that it was written by us, nor that it appeared in our journal. The editor adopts it as his own article. It occupies three pages or over, and cost us about two hours' hard writing; and yet neither we nor our journal receive any credit for it. In the case in which we are charged with cabbaging, the writer has received due credit. Editorials taken from other journals should be credited in preference to any other matter.

DR. FRANCIS JOHN RAPP.—Dr. Francis John Rapp, one of the oldest practicing physicians of Cincinnati, recently died. He was born February 25, 1819, at Villengen, Baden. Having attended the schools at Donauoeshingen and Rastadt, he began the study of medicine at the University of Freiburg, Baden, which he attended from 1836 to 1842. At Carlsruhe, in 1843, he passed a searching examination in all branches of medicine, and then began his career as practicing physician at Goerwihl, Baden. After practicing here one year and at Zell another year he emigrated to America with his family, consisting of wife and child, and arrived at Cincinnati in November, 1847, where he remained until death closed an active medical career, in which, through energy, conscientiousness and strict attendance to his professional duties, he acquired an extensive practice and a large circle of friends. The first symptoms of his fatal disease of the stomach appeared two years ago, from which time on his health declined until death put an end to his sufferings. Up to a fortnight before his death, although feeble from ill-health, he insisted on attending to his medical duties.

THE WORK OF THE PEN.—A rapid penman can write thirty words in a minute. To do this he must draw his pen through the space of a rod, sixteen and a half feet. In forty minutes his pen travels a furlong. We make, on an average, sixteen curves or turns of the pen in writing each word. Writing thirty words in a minute, we must make 480 turns to each minute; in an hour, 28,000; in a day of only five hours, 144,000; in a year of 300 such days, 43,200,000. The man, therefore, who made 1,000,000 strokes with his pen was not at all remarkable. Many men—newspaper writers, for instance—make 4,000,000. Here we have, in the aggregate, a mark 300 miles long to be traced on paper by such a writer in a year.—Ex.

HORLICK'S FOOD.—This food seems to be attaining very considerable popularity. The medical journals throughout the country contain many flattering notices of it. A trial of its efficacy should be made, and then each physician would be able to judge for himself. It is put up in neat packages, and is not expensive.

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ORIGINAL CONTRIBUTIONS.

On Constipation.

BY H. ST. GEORGE HOPKINS, M. D.

[Read before the Alameda County Medical Association, California.]

CONSTIPATION of the bowels, more than any other bodily derangement, owes its extreme prevalence to perversion of natural laws—the beneficial laws of Providence. Waste and repair are necessarily connected with the performance of every function of the human body; and various excretory organs are the channels by which the materials of waste are separated from substances useful in the economy of life. Two aspects of the subject may be put forward: The necessity of carefully regarding the cause, primarily, and the means for effecting a cure. Much, however, may be acquired by regular habits, and want of care may induce a condition which will almost baffle all exertions. We have cases of constipation rendered permanently chronic and almost incurable by abuse of medicines. To the unreflecting mind nothing appears more easy than the treatment of constipation; nevertheless there exists perhaps no derangement of the human organism which presents more troublesome little difficulties and causes more mental worry to the medical practitioner.

Ordinary constipation arises from insufficient contraction of the muscular coat of the intestines. The canal becomes more and more distended with accumulations of undigested matter. The various causes which give rise to constipation of the bowels must ever demand serious consideration on the part of the physician. Suc-

cess in medical treatment depends much upon the exercise of sound judgment, for people are always apt to fall into habits of routine and want of caution when familiarity renders anything common. Constipation, otherwise than in an exceptional and occasional form, is not immediately urgent or fatal, only a very troublesome and intractable affection, and therefore regarded with a feeling somewhat akin to contempt, while the undermining effects upon the general health, being but little apprehended or understood, go on.

In reference to the causes of constipation, amongst the number that may be mentioned is an original peculiarity of habit or idiosyncrasy. That such peculiarity does exist can not be doubted, although it must not be regarded in the light of disease or as constipation arising from organic changes. I will endeavor to arrange under separate heads the great variety of causes which operate, either singly or conjointly, in setting up moderate or inveterate constipation:

1. The too free use of aperients.
2. Indolent habits, too much sleep, ill-ventilated apartments.
3. Torpid liver and deficiency of biliary secretion.
4. Neglect of proper periods for evacuating the bowels, especially when *nature* calls.
5. Pure nervousness, excessive anxiety regarding the frequency of evacuations or the opposite.
6. Want of contractile power, atony of the nervous and muscular coats, flatulent distension.
7. Deficient secretion of moisture in the lower bowel.
8. Causes mechanical and of limited location.

Dr. Haven has collected from various sources the history of 258 cases of intestinal obstruction, which, without including examples of inguinal, femoral, or umbilical hernia, he has arranged in three grand divisions:

1. *Intermural*, or those originating in, and implicating the mucous and muscular coats of, the intestinal walls, such as cancerous stricture, contractions or cicatrices of ulcers.
2. *Extramural*, acting from without, or affecting the serous covering, as bands and adhesions from effused lymph.
3. *Intramural*, produced by the lodgment of foreign bodies, *hardened feces*, etc.

Mr. Phillips has collected the histories of 169 cases, which he has divided thus: 69 from imagination; 60 from strangulations by adhesions; 19 from disease of the coats of the bowels; 11 from impaction of hardened *feces*; 10 from tumors external to the bowels.*

There are still other causes of constipation, namely, the want of contraction of the abdominal walls. The action of these muscles is an important factor in aid of defecation; and excessive development of fat or the effort accompanied by pain of a neuralgic character will prevent their proper action. Constipation is also an accompaniment of anemia, as in chlorosis. The condition of the blood is here the primary cause of other changes, as inactivity or irregular muscular exertion. The biliary and pancreatic excretions are imperfect both in character and quantity.

Let us now go back to the divisions first presented. The condemnation of the widely-spread abuse of aperients ought not to be confined to violent purging, but extended to the injudicious habit of constantly resorting to opening medicines, however mild. It is a fact that from this reason obstinate constipation is more common amongst Americans than either French or Germans. With us the apothecary behind his counter is permitted to sell every drug and patent poison, even prescribing as a physician. In France the law protects the public from such evils, but with us the fear of infringing on the liberty of the people prevents such restrictions. Well may we exclaim: "Oh, Liberty! what crimes and evils are done and permitted in thy name!" History tells us that Vitellius was in the habit of resorting to emetics. Doubtless so far as the intestinal economy is concerned, the direct evacuation of the stomach after over-repletion would be by no means an injudicious course. Disgusting as it may appear to the more refined, it would certainly often save the general organism from subsequent mischief. When nature can not respond to the cruel calls made upon her, when she can not relieve the body from the primary and secondary products of an overloaded state of the stomach, liver and other viscera, a state of actual paralysis of the muscular fiber of the intestines may after a time be in-

*Amer. Jour. Med. Sciences, Vol. 56, 1855; Med. Chirurg. Trans. Vol. 31, 1848, London.

duced; in the same manner as the urinary bladder, if enormously distended, is unable to empty its contents. Then art is employed in the form of blue pill and black draught, or the druggist's anti-bilious pills. These after a time reduce the whole coat of the intestine to a relaxed and enfeebled condition. The mucous membrane is debilitated; the muscular fiber inactive and more than half paralyzed. Yet not for one moment should such remedies be withheld absolutely, for they often do much good and are attended with marked relief to the existing morbid condition. But it is the continued use, not to say abuse of them which leads to the chronic condition known as constipation.

2. Indolent habits, luxurious living, confinement in hot, ill-ventilated apartments, too much sleep, etc., are common among the most highly civilized nations, with the majority of whom artificial modes of living are to a great extent substituted for natural ones. Deficiency of physical exertion necessarily entails torpidity of the entire corporeal mechanism. The circulation is inactive; digestion, assimilation and nutrition are imperfect; vitality is lowered, for animal heat can not be generated in sufficient quantities; hence the torpor and inactivity of the functions are a necessary consequence of such abnormal influences. Hence by reasoning we should conclude that constipation would be a highly probable result. We find it so, for torpidity and irregularity of intestinal action is a natural sequence.

Let life be made up of undue self-indulgence, indolent habits, too much sleep, outdoor exercise except in a carriage not thought of—let life be thus spent; then we shall find diminished intellectual power, accompanied by inactivity of the excretory functions, imperfect and unhealthy nutrition, with difficulties in getting rid of the excretions. For instance, let any of us in health awake with the full feeling of refreshment following natural sleep, and again for an hour or two fall asleep, we almost invariably find it followed by a certain heaviness of head and sense of weariness. Such indulgence, persistently given way to, tends to a diminution of the healthy tone of the powers of mind and body.

3. Torpid liver and deficiency of biliary secretion form our next division. Constipation acknowledges these as among its most common and earliest causes. They may

not only exist as direct causes, but often indirectly, being themselves consequences of improper habits.

In regard to torpid liver, with its consequent derangement of biliary secretion, the researches of Bernard, Budd, Paget, Lehman and others have enlightened us on the more scientific points of hepatic physiology and pathology. But we still remain, and perhaps may ever remain, imperfectly acquainted with the mysterious forces in operation to retain harmony and order under ordinary circumstances and thus prevent disease. There are persons with whom life itself is felt to be a burden solely from feelings of annoyance and irritability thus generated. Yet constipation from hepatic derangements may be easily avoided by simple means, by the employment of common sense and attention to the lessons nature is always ready to teach. Yet in spite of nature's teachings, aided by the researches of physiologists, the liver and bowels are half paralyzed, and the entire animal economy is scarcely in a condition to resist the most insignificant foe, much less that most malignant and ever alert assailant of the delicately organized, phthisis pulmonalis. W. W. Ross, in the *British Medical Associated Journal*, has drawn attention to the fact that liver derangements almost invariably precede tubercular deposits in the lungs.

4. Neglect of proper periods for evacuating the bowels. Many become victims of very obstinate constipation simply from habitual neglect of regularity in permitting the bowels to act. Nor can we wonder at this error in persons whose time may be valuable or uncertain, who from early morning after a hurried breakfast until a late dinner have their entire time and energies devoted to one absorbing train of thought, which renders them indifferent to, or insensible of, nature's requirements, until continual neglect of healthy solicitations has produced its mischievous effect—impairment of the natural sensitiveness of the involuntary muscles. The involuntary solicitations of the bowels can not be ignored with safety, even by strong persons, much less by those predisposed to irregularity, for besides the risk of half paralyzing the involuntary powers which aid regularity of the intestinal function, we must not be unmindful of another serious evil, absorption of the morbid matters from the intestines. Few medical men can have been in practice very long

without meeting with occasional instances in which the fecal absorption has most unpleasantly impressed itself upon the nasal organ. The odor from the mouth is most offensive. The odor from the skin, urine, and, in one case coming under my observation, odor from the feet, were only too horrible, as well as peculiar. The case referred to was seen by Drs. Wistar, Rhodes, Pepper (Wm.) and West, of Philadelphia, at my request.

5. Pure nervousness, excessive anxiety regarding the frequency of evacuations or the opposite. The motto that "The middle course is always best" is more acknowledged in theory than in practice; it is not uncommon to meet with persons who render themselves perfectly miserable as regards their bowels, for unless they can have one evacuation daily in perfectly regular quantity they imagine all sorts of evils. Now while the misery may be and no doubt is imaginary to a great extent, or aggravated by mental worry, caused by a slight deviation from regularity, there certainly may be much painful reality, which reality may be of two kinds, that resulting from *pure nervousness* and that from *absolute* derangement of the animal economy. When once the too susceptible brain gains a morbid and undue influence over the physical powers, the normal equilibrium of the whole organism is lost, and the harmonious operations of nature are interrupted. Not only does the brain itself frequently become unhinged under such circumstances, but other consequences may arise of more painful nature.

6. It is now pertinent to reflect upon the absence of due contractile power, atony of the nervous and muscular coats of the intestinal canal, irregular peristaltic action and flatulent distension. These conditions are to a greater or less extent the common accompaniment of the constipated habit, as is known to every medical practitioner. Not only this, but every subject of this ailment must be unpleasantly aware of their presence. Therefore it is of importance that the medical attendant should strive to impress them with a conviction of the baneful effects upon the entire organism which must always follow constipation if permitted to remain.

Prevention is better than cure; so by judicious advice and attention the primary causes may be nipped in the bud, not even excepting those arising from hereditary predisposition.

7. Deficient secretion of moisture may be secondary to some causes which have already been touched upon, or it may partake of a more primary character. In the latter phase it frequently arises from errors of diet, too drying or too stimulating, or highly concentrated food. There may not be a proper admixture of fruit and vegetables; animal fiber eaten constantly overdone, when the salts as well as the juices are cooked out, will do harm; or adulterations of lime or alum in the flour for bread, or the use of water containing lead, or the too copious use of chalybeate waters.

8. Most mechanical and other allied causes have been ably written upon, and as a rule ably treated, by most of our medical brotherhood, in accordance with natural laws, aided by the mechanical contrivances brought to bear upon their cases by scientific investigations. The varieties of mechanical constipation may be divided thus:

1. Those from pregnancy, without other complications.
2. Intestinal calculi, or concretions in the cecum.
3. Local non-malignant disease; such as thickening of different coats of the intestine.
4. Cancerous strictures.
5. Impediments from tumors external to the intestinal canal.
6. Muscular inefficiency of the abdomen, such as pendulous belly, rupture, myalgia, rheumatic pains.

To attempt to follow all these varieties would prolong this paper to an improper length. But before closing allow me to remark that in its preparation I have consulted many authorities and availed myself of the experience of my professional brethren, among whom I am particularly indebted to my friends Drs. Agard and Trembly.

Michigan State Board of Health.

[Reported for the MEDICAL NEWS.]

THE regular quarterly meeting of this Board was held at Lansing, Tuesday, April 12, the following members being present: Rev. D. C. Jacokes, of Pontiac; Henry F. Lyster, M. D., of Detroit; Arthur Hazelwood, M. D., of Grand Rapids, and Henry B. Baker, M. D., Secretary. Dr. Lyster was elected President *pro tem*.

A letter from Prof. Kedzie, President of the Board, announced his decision to decline the re-appointment as member of the Board, for the reason that his duties as professor at the Agricultural College were such as, in the opinion of members of the Board of Agriculture, would prevent his giving that attention to the work of the Board of Health which he had heretofore done. His communication outlined the great progress in public health measures in this State since the organization of the State Board of Health eight years ago. He saw with pride that nearly every city, village and township in the State now has its Board of Health and health officers. Kerosene explosions, so common eight years ago, have forever been banished. Everywhere in the State there is evidence of an advance in the stamping out of infectious diseases. The ventilation of churches, school-houses and dwellings now receive an attention never known before. The water in our wells, the drainage of farms and sewerage of houses have all been brought into prominence by the labors of the Board. In this work the Board had been greatly assisted by the public press, but the press itself has been stimulated by the work of the Board. In short, there has been a general advance along the whole line, but we have kept such even step in this advance that we only become aware of our changed position by comparison with the landmarks of eight years ago. Last, but not least, among the agencies set in motion for the public health, he noticed the sanitary conventions for discussion with the people of all matters relating to their physical well-being. He believed they were fraught with inestimable good to the people of our State. The forces which are thus set in motion are not temporary in their influence, but will flow on in a stream of blessings to the end of time. The information gathered by the Board needs to be scattered broadcast among the people. New and original investigations into the nature of contagious diseases, and the means for arresting them, need to be undertaken and pushed forward by the Board. The information gathered will be of small benefit if imparted to only a few. The State can not afford to hide this light under a bushel.

In bidding farewell to the State Board of Health, Dr. Kedzie gave the assurance that he did so with the kindest feelings toward all its members, and with an earnest wish for its highest prosperity and usefulness.

Resolutions were passed expressing extreme regret at the necessity which compelled Dr. Kedzie to decline to serve longer with the Board; also, expressing the high appreciation of the Board for the eminent labors of Prof. Kedzie in the interests of the public health of the State. The election of his successor as President was postponed until the next meeting of the Board.

THE FILTH OF OUR CITIES.

The Secretary presented a communication from C. H. Voute, giving statistics of the filth removed from privies and cesspools in various places of the State by means of the odorless excavating apparatus. During the time—about a year—the number of tons removed, is, approximately, as follows: East Saginaw, 850; Bay City, 580; Lansing, 93; Charlotte, 61; Jackson, 151; Ionia, 78; Flint, 118; Battle Creek, 60; Kalamazoo, 258; in the State about 2,300 tons, or 15,000 barrels, and of that amount but 2,000 barrels could be pumped out, the remainder being removed by the “pitting” process, showing the liquid portion had mostly drained off into the soil, which must be much saturated with filth, and, as a consequence, many wells must be contaminated.

OIL INSPECTION.

Communications had been received from different parts of the State stating that it was customary for deputy oil-inspectors to inspect a few barrels of oil from a car load, and brand as “approved,” and collect pay for inspecting the whole car load. One of the statements was that the inspector did not test every barrel, even when his test showed at least three different grades of oil in the car load. The questions were whether this was an honest fulfillment of the law, and whether the public safety is thus conserved. The Secretary was directed to take action for ascertaining.

SICKNESS CAUSED BY PUTRID MEAT.

A letter was presented from John Mulvany, M. D., surgeon in the British Navy, detailing the effects of food rendered unwholesome through putrefactive taint. All of the crew of a large merchant vessel that put into the Falkland Islands, who ate of pork opened on a certain day, became ill, and the illness continued until the ship was disabled, and medical assistance was sought for in

the Falkland Islands. There it was found that not only the pork, but the beef was bad, and the meat was condemned by a Board of Surveying Officers. Seven of the affected died, and *post-mortem* examination revealed immense effusion into the pericardium, a stench from the brain, and congestion at the point of the calamus scriptorius in the fourth ventricle, with congestion of the jejunum and ilium. During life the chief symptoms were paralysis of the hands and feet, and agonizing pains in the toes; uncontrollable sleeplessness, loose bowels, stench from the skin, etc. Symptoms entirely *sui generis*.

The Board requested Dr. Mulvany to present a complete account of the sickness.

DISEASES OF ANIMALS.

A letter was presented from H. J. Murray, U. S. Secretary of the State Cattle Commission, relative to the desirability of collecting statistics of deaths from contagious diseases of animals in all parts of the State. This work might properly have been done by the State Cattle Commission, if it had any funds, but a bill granting them an appropriation of \$500, which was passed by the Senate, was defeated in the House of the present Legislature.

Letters were also presented relative to glanders in Clinton and Shiawassee Counties.

SANITARY CONVENTIONS.

Invitations to hold sanitary conventions during the coming winter were accepted from Coldwater and Ann Arbor.

DETROIT BOARD OF HEALTH.

Dr. Lyster, Chairman of the Special Committee of the Board, to devise a plan for a Board of Health for the city of Detroit, reported that he had, in consultation with the city attorney and other citizens, drawn up a bill providing a practical and scientific Board of Health for that city, and the bill was now before the Legislature.

SANITARY SCIENCE EXAMINATIONS.

The annual examination of applicants in sanitary science will be held Tuesday, July 12, 1881. It was voted that the examination should be written, and that each member should submit ten questions not heretofore asked, and on subjects connected with their work as regular

committees. Candidates successfully passing the examination will receive certificates that they are qualified to act as health officers in any city, village or township in the State.

CONTAGIOUS DISEASES.

It was decided to print revised editions of the documents on the restriction and prevention of each of the three diseases, diphtheria, scarlet fever and small-pox. Arrangements were also made for the translation of these documents into the Holland and German languages.

"WINTER CHOLERA."

The Secretary reported the prevalence of a peculiar type of diarrhea in some portions of the State during the past winter. The fact of its greater prevalence in the southern portion of the State, and that cases have been reported from two State institutions and from towns in the northern part of the State, dependent upon Chicago and Southern Michigan for their food supplies, might indicate a connection between the sickness and the use of oleomargarine, butterine, products of diseased pork or meat, or other food.

The next regular meeting of the Board will be Tuesday, July 12, 1881.

Hypodermic Medication.

BY J. N. WEAVER, M. D., WOOSTER, O.

[Read before the Ohio State Medical Society.]

HAVING been appointed, two years ago, by the President of this Society, a committee to prepare a paper on the above named method of medication—and not having said paper in a sufficiently advanced stage of preparation to present at the last meeting—at my own request I was continued a committee upon the subject, and now come before the Society with a paper made up principally of the records of my own cases, and those coming immediately under my own observations.

Hypodermic Medication, as its name implies, is that mode of medication by which the system is brought under the influence of remedies by having them introduced beneath the Dermoid structure—or, in other words, passed directly into the cellular tissue beneath the skin. This

method of treatment is of comparatively late date; formerly remedies were given by the mouth, rectum, or by abrading the skin were made to be absorbed. These were the only means by which it was supposed the system could be brought under the influence of medicines; means entirely too slow to answer the purpose on many occasions.

If we look back to a period of time not more than twenty or twenty-five years past, we find no mention made of this mode of procedure, and only during the last ten or twelve years has it been brought into anything like general use. During that time it has received a good share of the attention of the profession; is growing more and more into general use, and now hardly a physician in the land feels himself fully armed and equipped without the small syringe and its accompanying remedies. If we trace back the history of this plan of medication, we find that in 1843 Dr. Alexander J. Wood, of Edinburgh, made some experiments in the treatment of neuralgic affections, with something like good results. Dr. Kinsack, of Vienna, also instituted a series of experiments, arriving at same conclusions. Mr. Ryan, of Dublin, at a little later date, did the same. Most of these were experiments, and made simply for producing local effects. These experiments demonstrated the fact that the plan was a good one; that results could be obtained from the use of remedies not attainable in other ways, and that if properly managed was all that could be desired. But as these were simply experiments, and made as such, it has been left to a later day to establish the fact that the system can thus be brought fully under the influence of remedies, and some diseases not only be cured, but entirely prevented. Since 1853 this system of medication has been thoroughly studied by such men as Behier, Lorent, Eulenberg, Nussbaum, Ruppaneer, to all of whom we are much indebted for the present knowledge of the subject. The mode of treatment, as I have already said, consists of introducing into the cellular structure such remedies as are deemed applicable to meet the wants of the individual cases. The mode of procedure is, perhaps, so well known that it is hardly necessary to mention it; but as an essay of this kind does not at all approach completion without attempting to go over a good part of the whole ground, I would say that this is done by means

of a small syringe, generally of a size to hold from 1-3 ℥ to 1 ℥, made of rubber, glass or metal, to which is attached a sharpened hollow needle; a portion of skin is pinched up with finger and thumb of one hand, whilst with the other the instrument is thrust in, and its contents emptied—the operation not occupying more than a few seconds of time, or carrying with it any more pain than one would experience from the slight scratch of a pin.

This mode of treatment is applicable to a large range of cases; especially desirable is it when it becomes highly necessary to place the patient under the influence of medicine at once. This, in fact, is just what causes it to stand pre-eminently above other modes of administration; for instance, where it is desirable to relieve persons from severe and acute pain at once, all that are accustomed to this mode of medication, will bear witness to its efficiency. You find a man yelling and screaming with pain from a severe contusion or lacerated wound, or tossing from side to side of the bed, or rolling on the floor in agony from the passage of a biliary or renal calculi, take from your pocket your small syringe loaded with a solution of one-third of a grain of sol. morphia, inject its contents, and see if the result is not in strict accordance with the statement just made. Two or three cases occurring in my own practice, if you please. Mrs. W., aged thirty-five years, mother of four children, had been subject to sudden and severe attacks of neuralgia of stomach and bowels, coming on without premonitory symptoms or warning, and for which she had been in the habit of taking large doses of morphia, which invariably gave rise to nausea and vomiting for two or three days thereafter. Was called to see her June 16, 1866; found her sitting on side of bed, with knees drawn up, fingers clenched, face covered with cold perspiration; she was in terrible agony from the intensity of the pain. Having my syringe and solution morphia, 1 gr. to the ℥, with me, I at once injected 1-3 ℥ over the region of the stomach; the effect was almost miraculous; in two minutes the pain had entirely subsided. So great and perfect was the transition from extreme suffering to perfect ease, that she drew a long breath and exclaimed, "I never felt so good in all my life." Since then she has had several attacks, but the injections never fail to give relief, full and perfect; and, I may add, that the quantity never has to be increased,

and that she has never been troubled with retching and vomiting.

Mr. H., aged seventy-nine years, was attacked suddenly October 25, 1865, with cholera morbus. He was found insensible, and, to all appearance, dying; one-third gr. of morphia was administered at once, and a like quantity in an hour. So great was the depression in one so old that it was expected he could not live, but greatly to our surprise, the next morning, he was up, dressed and out on the street; no further visits or medicines were necessary, and to this day the old gentleman denies ever having been treated at all.

Mrs. B., aged twenty six years; confined for the first time June 20, 1866. Some three weeks afterward, after returning from a ride with her husband, was suddenly attacked with most distressing pain in lower portion of abdomen; was unable to sit, stand or lie down; I found her rushing about her chamber and screaming for relief; a hypodermic injection of morphia relieved as if by magic; rest and quietness in bed for a few days completed a cure.

Plenty of other instances, of like character, could be given, but these we deem sufficient evidence to prove that the introduction of sedatives into the cellular tissue, by means of the syringe, the most efficient mode of triumphing over pain—comparing favorably, if not standing ahead of even chloroform or ether—for while they, the latter, arrest the pain almost instantly, yet their effect is but momentary; frequently as soon as they are withdrawn the tyrant returns with all its force and power; the latter almost always produce sickness of the stomach and vomiting, which very much interferes with the administration of other remedies. Then, besides, the medical man does not always feel justified in the administration of these anæsthetics without a careful examination of the heart and lungs; this he can not do at the time because of the excitement the patient is laboring under, and because the indication is to relieve the pain at once; there is no time for such an examination.

Being a resident of a portion of country in which malarial influences prevail to but a slight extent, I am not able to give many illustrations of the beneficial effects of quinia used in this way; that its action is more rapid, sure and certain, and that the system can be fully brought under its influence there is no doubt. Some may say that

quinia can not be used in this way because it is not sufficiently soluble in a minute quantity of water to be made available, and that the operation would have to be repeated again and again in order to have the system brought fully under its influence; but when we come to investigate we find that hypodermically we do not have to use but little more than half as much of the drug as by the common mode, part of the difficulty, at least, vanishes. Then by using the following formula:

| | | |
|----|-------------------|---------|
| R̄ | Quiniæ Sulphatis, | 3i |
| | Acid sul. dil., | gtt. xl |
| | Aquæ Distillatæ, | 3i |
| | Mix and filter. | |

You will find that fully three grains can be used at an injection—taking it for granted that the syringe holds half a 3. This, of itself, is sometimes sufficient to ward off an attack of neuralgia or intermittent fever. Repeat it two or three times, and you have the system fully quininized. Those practitioners who live in malarious districts very well know how necessary it is to bring the patient fully under the influence of quinia as soon as possible sometimes. Most of us, perhaps, have seen the time when we felt that if our patients could be brought under the influence of anti-periodic remedies at once their lives might be spared. Take what is known as “congestive chills” due to malarious influence. The person having already suffered from one or more, and being perfectly prostrated, is not able to withstand many more attacks of like character; the poison must be arrested at once. Quinia, we know, will do this if a sufficient quantity can be introduced into the system; but the patient may not be able to swallow, or the remedy given in the usual way provoke vomiting, as it frequently does. Then introduce it subcutaneously and the chances are that it produce good results. The patient will not die, but live. July 5, 1866, Mr. J. B. called at my office suffering with severe pain along the track of the left supra-orbital nerve. It was what is designated by the people as “liver pain.” He had suffered several days, and now sought relief. Prescribed a brisk cathartic, to be followed by twenty grains quinia in the interval—came back in forty-eight hours in the same condition—increased quinia to thirty grains, giving morphia during the duration of the pain—returned after two days no better—gave one injection of

three grains sul. quinia, and one-eighth grain morphia. In a few moments the pain was entirely relieved, and did not return.

There are other times and circumstances when it seems to me that this method of medication especially recommends itself to the practitioner, leading to perfectly good results. In this day and generation, when there seems to be such a disposition on the part of so many of the inhabitants of the land to commit suicide—to put an end to an existence that is far from satisfactory—and when frequently it is known with what article this is done, some surer remedy than those ordinarily employed should be made use of. Suppose, for instance, a man with the intention of becoming his own murderer, or it may be in mistake, swallows a fatal portion of opium or some of its preparations, he stubbornly resists the taking of remedies by the ordinary means, or, perhaps, is totally unconscious from its effects, with stertorous breathing, contracted pupils, ghastly features, cold extremities—we know that he is not far from the “gates of death,” and whatever is done must be done quickly. Emetics can not be given, for he can not swallow. It would be with difficulty that a stomach pump could be introduced or used, and even could that be done it might fail to give relief, for the poison has already entered the circulation and is coursing its fatal round, producing its narcotic effect upon the system. In a few hours the pulsations of the heart will have ceased. A once joyous and happy life have ended. One of the loved ones have passed into another world. Then why not inject into the cellular tissue a preparation of belladonna—a remedy which meets face to face the destroyer, and overcomes him. I do not propose to discuss here the antagonistic action of opium and belladonna. I leave that to older and wiser heads; but I do believe that one is capable of overcoming the poisonous action of the other, and that the large number of cases on record sufficiently proves the assertion. It is not necessary for me to mention any of them here. A close reading of the leading journals during the past year will furnish an ample number.

I desire to call the attention of this Society to the treatment of syphilis by the hypodermic method. In the transactions of the American Medical Association for 1868 will be found an essay on this subject, by Dr. Els-

berg, of New York, in which he shows that the injection of corrosive sublimate in secondary syphilis is far preferable to the old method of treatment. He gives an account of its use by Dr. George Lorrin, of Berlin, who has employed it in nine hundred different cases with very satisfactory results. He enumerates the advantage of the method as follows:

"1. The rapidity with which the syphilitic symptoms disappear.

"2. The certainty of success—of the nine hundred cases treated only those where the bones and brains were affected did they resist treatment.

"3. Recurrences being relatively rare and not severe. Whereas," he says, "previously, with or without the mercurial mode of treatment, at least about eighty-one per cent. recurrences took place: whilst in about the same time the subcutaneous method showed only about thirty-one per cent."

Dr. Elsberg says he does not inject more, and usually less, than one-eighth of grain per day, and this always at one operation; and that he did not find it necessary to continue the injections longer than four weeks. In not one of his cases did he produce ptyalism. With these statements before us, is it not worthy of a careful and earnest consideration?

It is, perhaps, in the treatment of neuralgia that this mode of medication can be best employed, and here I am inclined to the opinion that we not only secure local effects, such as palliation or relief of pain, but sometimes also effect radical cures. Eulenberg reports eight cases of radical cure out of twenty-eight treated. Ruppeneer also reports cures without resort to other treatment.

Most happy is the effect of subcutaneous injections in the relief of muscular twitchings in limbs lately amputated or fractured—quieting the patient and allowing him to secure that sleep so necessary after a severe operation or injury. Some difference of opinion has arisen among the medical men and also among writers in relation to the point of insertion of the remedy used, some contending that in neuralgia, for instance, the injection should be over the seat of pain, thus getting a local as well as a general effect. Others, on the other hand, insert the remedy in a distant part of the body, claiming for so doing that you get no local effect from the injection, and if no

local effect, it may as well be inserted in one portion of the body as the other. Also, by introducing it over the seat of pain you add to the congestion of the parts. Rupanbeer is of the opinion that localization is the best mode. He says: "In order to satisfy myself beyond all question, I have frequently given to patients, afflicted with neuralgia, the benefit of the injection at the most painful point, and at a distance from the same. In all cases I have had more satisfactory results from the injection at the most painful point." He goes on and says: "When we inject a large dose the effect may be at times the same in either position, near the foyer or at a distance; but as I always begin with a minimum dose, I am equally sure that while an injection of five drops, at a point distant from the seat of pain, produces little, if any, effect at all, the same introduced at the original foyer, or near it, accomplishes the object, completely gives relief, and sometimes cures." I see no reason why these theories are not true, and have always acted on the principle of inserting the remedy near the seat of pain.

It should be constantly borne in mind by practitioners that preparations, especially those of opium, put up for subcutaneous injections, are liable to decomposition or chemical change by long standing, thus losing their power and becoming inert. Fresh solutions should always be used, and then disappointment will not follow.

There are some objections urged against hypodermic medication, which it would, perhaps, be right and proper that I should mention before leaving the subject; and one is that people are afraid of it—they are adverse to the introduction of remedies in this way. It is the opposition which always meets any new thing, and comes from the ignorant and unlearned, generally, and hardly deserves a reply. It can most effectually be silenced by noting the effects of one or two administrations. Again, it is said that the after effects are bad, that abscesses and injuries to the soft parts are apt to follow. It is true that occasionally abscesses do follow, but it is always due, in my observations, to the impurity of the remedy used, or the careless manner in which the operation is performed. I know of a case under my own observation, where the syringe was used twice daily for a period of over a year, and the injections made all of that time in a space not more than nine inches square, without the sign of an ab-

success. In another case, under the care of a neighboring practitioner, injections were used for more than two years, three and four times daily, and although abscesses occurred two or three times, yet in each case they were traced to improperly prepared solutions. There are but few arguments that can be used anything like successfully against the hypodermic method of medication; and what few there are, do they not sink into insignificance when compared with all the good that can be accomplished by their use?

I have now hastily and very imperfectly alluded to some of the leading points connected with this mode of medication. It is yet in its infancy. Much is to be studied and learned, but it is destined to occupy a higher position than it now does, and to be applicable to a wider range of cases.

Intestinal Obstruction Existing for Nine Months cured by Colo-Puncture.

BY DR. JOHN M'GOWN.

THE first symptom noticed was about the month of March. At that time the patient began to refuse his food, had slight diarrhea, and the abdomen was somewhat tympanitic. He complained of no pain at this period, nor at any time during the whole course of the disease. The diarrhea continued, more or less, during the nine months he was ill. Thinking the illness was owing to some slight derangement of the stomach, I tried all the medicines usually given in such cases—still the diarrhea continued, and the distension of the abdomen increased. He still complained of no pain. He had no vomiting, unless when forced to take more food than he liked. The constant diarrhea, and taking little food, produced great emaciation. A remarkable feature of the case was that about five minutes after he took any food, a loud click-clicking sound was heard. The sound was such as can be produced by a quart bottle full of fluid being laid on its side, and allowed to empty itself in that way. The sound was produced by the fluid passing through the obstructed part, wherever that might be. The mechanical pressure of the gas on the kidneys and blood-vessels of the ab-

domen produced a whole train of peculiar symptoms. The legs became very œdematous three months after the disease was first noticed, and at the end of nine months they were greatly swollen, the skin blistered in several places, and fluid oozing from them. The heart's action was very feeble. The pulse had gone down to 40 in a minute. No trace of albumen was found in the urine during the whole course of the disease. There was no difficulty of breathing, unless he attempted to exert himself in any way. The great pressure in the bowels produced a very large inguinal hernia on the left side. This could be easily reduced, but no truss could keep it up, on account of the great pressure. About the month of June, the disease, now going on for five months, and having failed to relieve the distension, which was now very great, I passed the tube of the stomach pump up the descending colon for nearly two feet, and let off a large quantity of flatus. After the gas was let off, I injected a gallon of tepid water into the bowels through the long tube. I continued to do this every eight days for about two months; but latterly it required to be done every three or four days. I had great difficulty in introducing the tube at first, both on account of the unwillingness of the patient, and from the contraction of the sphincter ani; but latterly, I introduced the rectum speculum first, and then passed the tube through it with the greatest ease to myself and patient. During the month of August, I had the advice and assistance of several medical friends who were spending their holidays here. Dr. Kirk, of Patrick, suggested that I should give the extract of belladonna a fair trial, which I did, without any good result. Opium had been given in large doses at an early stage of the disease, with a similar result. I now sought the advice of Professor Gairdner, of Glasgow, who came and saw the patient. He suggested my asking Dr. Cameron to see the case. Dr. Cameron and Dr. Grieve saw the case eight days after Dr. Gairdner. Dr. Cameron suggested puncturing the bowels; but as I had been taught that that was a very dangerous operation, and one that should not be performed until all other things had failed, I did not consent to its being done. I was still able to partly relieve the distension with the long tube passed per anum.

In the *British Medical Journal*, September 27, 1879,

several cases of intestinal obstruction were published; and, as they had a direct bearing on my case, I read them very carefully. I was very much struck by what Dr. Goodhart said to his students in a lecture delivered at Guy's Hospital, when speaking about the operation of *colo-puncture*. Here are his own words, taken from the journal just referred to: "You may think perhaps that some less hazardous means of relieving the distension than that of colotomy might be adopted, and another operation has been practiced with that end in view, viz.: paracentesis.

"The distension is due partly to gas and partly to fluid *fæces*; and it has been thought that, by withdrawing the former, the severity of the case might be relieved. One of the distended coils has therefore been tapped by a fine trocar and canula, but there can be no doubt that this is an exceedingly dangerous thing to do, and I do not, from what I have seen and from what others have told, feel in the least inclined to recommend it to your notice. The danger is this, that the distension is, in the majority of cases, but little relieved; that alone is an objection fatal to its adoption. And the bowel remaining full, and its walls tightly stretched, *fæcal* matter, which you remember I told you is *always* liquid, leaks out into the peritoneum after the withdrawal of the canula from even the smallest puncture. I have myself seen this operation performed and *fæcal* matter came out by the canula at once; no relief followed, and the patient died not long afterwards of acute peritonitis. So, do anything rather than this. You are taught, and quite correctly, too, that small wounds of the intestine are comparatively dangerless, because the mucous membrane becomes everted, and so closes the aperture; but this only applies to a contracted intestine; but we are dealing with an overfull one. All the coats are, in such a case, distended probably to their utmost, the *rugæ* obliterated, and there is nothing to evert; and the smallest hole, under such circumstances, becomes a vent, and a vent, however small, in such a position, is fatal.

I called Dr. Cameron's attention to the articles published in this number of the *Journal*. After he had read them he told me he would come and see the patient, and do whatever might be considered best under the circumstances. Notwithstanding Dr. Goodhart's teaching, colo-

puncture was agreed upon. The patient was placed on his back in bed, the position he always lay in since his illness. No chloroform was given, wisely I think, as you will hear shortly. Dr. Cameron thrust in the trocar and canula into the middle of the transverse colon; the gas blew off for a few minutes, and the bowel was about half emptied of the gas, when the bowel was strongly drawn to the left side by its own peristaltic action; the canula was laid down on the walls of the abdomen, and liquid fæces began to escape from the canula. Dr. Cameron placed his thumb on the mouth of the canula, and then injected a small quantity of tepid water through the canula into the bowel. He now withdrew the canula, and placed a small piece of adhesive plaster over the wound, and we left the patient in bed. We did not consider the operation very successful, as the gas was only partly liberated.

But now comes the wonderful part of the case. Three hours after the operation the patient had a very copious discharge from the bowels of dark, clayish liquid fæces, followed by a second, one hour after the first. Seven hours after the operation, a large quantity of gas was passed per anum, and by next morning the abdomen was quite flat, and the distension completely gone. The kidneys now began to act vigorously. The ordinary chamber utensil was filled three times in sixteen hours; and, at the end of three days, all the œdema in the limbs had disappeared. The heart's action was now greatly increased the pulse rose from 48 to 70 per minute. The patient has improved every day since the operation, and is gaining flesh rapidly. Wherever the strangulation existed, I am of the opinion that the bowel liberated itself at the time of the operation. Had chloroform been given, the peristaltic action of the bowel might have been reduced, and the operation might not have terminated so well. Had this operation been delayed much longer, the patient could not have lived many days. I look upon the case as another of the triumphs of surgery; and should a similar case present itself to any of my medical brethren, I hope they will not hesitate to give their patient immediate relief, and a chance of complete recovery by the operation of colo-puncture.—*Glasgow Medical Journal*.

Differential Diagnosis between Chancre and other Ulcers of the Cervix Uteri.

[Translation in Philadelphia Medical Times.]

RASMUSOW, in an article of great interest both to the gynecologist and to the general practitioner (*Vierteljahresschr. f. Derm. u. Syphilis*), says that the first point is to decide whether a given sore is a chancroid or a chancre. The points of diagnosis are as follows: The chancroid presents, as a rule, a decided loss of substance, an excavation with undermined and corroded edges, surrounded by a reactive inflammatory area. The surface of the chancre, on the other hand, is usually flat, sometimes elevated, without sharply-defined borders, and rarely shows itself as a decided loss of substance. The floor of the chancroid is uneven, like its edges, corroded, and covered with a more or less abundant yellowish or fatty-looking secretion. The floor of the chancre is smooth, as if varnished, with a grayish or reddish (flesh-colored) appearance, and it exudes a scanty sero-sanguinolent or purulent fluid. The floor of the chancroid is soft and doughy, or only gives the sensation of inflammatory exudation, while the chancre is marked by a well-marked, hard, sclerosed foundation, although this may not be so perceptible in this locality as in chancres of the external skin. A common accompaniment of the chancre is a painless enlargement of neighboring lymphatic glands, the tumors thus formed showing in most cases no tendency to break down into abscesses. A similar involvement is quite unusual in chancroid, occurring, according to Zeissl, only twenty times in one hundred cases. This is particularly the case in chancroids of the cervix in which it only occurs when these ulcers are accompanied by similar sores on the external genitalia, where abscesses form as a rule. The chancre is followed by appearance of general secondary symptoms, while, as is known, the chancroid is a purely local affection. As to inoculation, Rasmusow has not employed this method of diagnosis; first, because in many of his cases the capability of the secretion for auto-inoculation is evident from the appearance of neighboring sores; and secondly, because at present the fact asserted by Auspitz appears to be proved, namely, that the secretion of the chancre can itself be auto-inoculated until the period of general symptoms.

Of other affections of the cervix which may be confounded with chancre, follicular ulcers, simple abrasions or excoriations, papillary erosions, herpetic ulcers, tubercular and cancerous ulcers, may be mentioned. As to the follicular ulcers, these are small and cup-shaped, situated in the follicles, are most numerous about the external os, and are even found within the cervical canal. They do indeed remind one of chancroids at first glance, but they are usually no larger than the follicles from which they originate, and do not tend to spread. Early cauterization generally heals them rapidly, whereas this treatment applied to the chancroid before its surface clears is usually harmful. Follicular ulcers are usually accompanied by enlarged and inflamed follicles, and are grouped about the external os. They are also usually accompanied by catarrh of the cervix and even of the uterine cavity. The ordinary accompaniments of this catarrh are likewise present—hyperplasia and hypertrophy of the cervix, fluor albus, burning in the lower pelvic region, pain in the loins, etc. Chancroids of the vagina usually run a painless course, and are unaccompanied by a catarrhal condition of the cervical canal and cervix. Quite contrary to chancre, these follicular ulcers do not run a typical course; they are quite indifferent to the influence of iodoform, which is almost a specific in the venereal sores of this locality. From the initial lesion of syphilis these follicular ulcers can easily be distinguished by their lack of induration and by the absence of swollen glands.

Simple erosions resemble chancroid and chancre only in the earliest stage of the latter. The changes which take place in both varieties of venereal sores, the ulceration of the chancroid, and the induration of the chancre, with involvement of neighboring lymphatic glands, soon serve to differentiate them.

The papillary erosion is simply a further metamorphosis of the simple erosion, and is characterized by small dark-red points scattered over its surface, which are nothing more than the points of papillæ deprived of epithelium which are found in the inflammatory condition. The papillary erosion is usually found in connection with simple erosion, and is accompanied by cervical and vaginal catarrh, the lesions also being grouped around the os uteri.

The so-called herpetic ulcer may sometimes resemble the initial lesion of syphilis, particularly when it takes

the form of an erosion; but the herpetic ulcer is apt to be multiple and the several lesions run together, forming a larger sore of a very irregular segmented outline. In addition, there is no induration or lymphatic glandular involvement, and the little sores tend to rapid cure. . . .

Tuberculous ulcers of the cervix are almost unknown as primary appearances, and are accompanied by signs of tuberculosis in other organs.

Temporary Aortic Insufficiency and Triple Aortic Second Sound.

WHETHER there are actual cases of temporary insufficiency of the valves of the heart caused by abnormal widening of the apertures or by disturbance of the closing mechanism (relative and functional insufficiency) has been much disputed. Although denied by competent authorities, there seems good reason to believe that relative insufficiency is not at all an uncommon condition of the tricuspid valve. Last winter, Dr. Heitler, of Vienna, in an address delivered before the Medical Society of Vienna, recorded a number of cases in which he had diagnosed relative insufficiency of the mitral valve, mostly cases of Bright's disease and anæmia which he had had under prolonged observation, and in which he had had an opportunity *post-mortem* of verifying his diagnosis. For the mitral valve the diagnosis of relative and functional insufficiency must probably in all cases remain uncertain, owing to the difficulty of excluding hæmic murmurs. With the aortic valve it is not so; and Prof. Drasche, of Vienna, in a recent number of the *Wiener Med. Wochenschrift*, records two cases interesting in themselves and of considerable importance in relation to this question.

The first case was that of a silk weaver, fifty five years of age, who first came under observation in June, 1879, during which month he was treated in hospital for simple mitral insufficiency. Four months later he appeared again at the hospital and was admitted. For several years, without any known cause or preceding illness, he had been affected with cough and dyspnœa, which symptoms in November, 1878, increased very much in severity, and were several times accompanied by hæmoptysis. When admitted in October, 1879, he also complained of palpitation

on exertion, and of symptoms pointing to gastric disturbance. On examination the lungs gave normal resonance, here and there mucous rales, and a little crepitation, with a slight purulent expectoration tinged with blood. The liver dullness extended three fingers' breadth below the cartilages of the ribs. The heart's impulse was felt to the left of the normal position; and the heart on percussion showed considerable enlargement in the transverse direction, very little in the longitudinal. Over the apex was heard a harsh diffused systolic bruit, with somewhat muffled second sound. The second pulmonary sound was strongly accentuated. Over the aorta both sounds were normal, the close of the second sound, if anything, slightly marked. Pulse small, but regular; temperature normal. The diagnosis naturally was mitral insufficiency. Repeated examinations during several weeks showed no essential difference in the above physical signs. The patient gradually improved, and was allowed gentle exercise in the ward. One day the patient was required for a clinical demonstration in a distant ward, to reach which he had to cross several courtyards and ascend several flights of steps. This exertion caused severe palpitation, and on examination an aortic diastolic bruit was heard in addition to the mitral systolic, the case being therefore pronounced to be one of insufficiency of the mitral and aortic valves. The patient now returned to bed, and next day the most thorough examination could detect only the mitral systolic bruit. Soon after, however, the patient had had a walk immediately before the visit, and now, on examination, the physical signs were quite different. First, the heart's impulse was somewhat stronger and broader, and over the third left costal cartilage a fine, short, localized thrill was felt during diastole. At the same spot was heard a short diastolic sound, tailing off into the characteristic blowing bruit of aortic insufficiency. The systolic apex bruit was now of a rougher character, the diastolic sound more muffled, and the radial pulse larger and fuller. The thrill and bruit could be readily produced by exertion on the part of the patient, accompanying three or four beats, intermitting two or three, and disappearing entirely after rest in bed. The diagnosis of temporary aortic insufficiency was therefore considered justified.

The second case has both a clinical interest as bearing

on the last, and also a physiological interest in relation to the production of the heart-sounds. The patient was a locksmith, aged twenty-nine, with phthisis of both lungs and Bright's disease. During the nine days he was in hospital the patient suffered greatly from dyspnœa, dropsy, and the other usual symptoms of phthisis and Bright's disease. Percussion showed the heart considerably enlarged in the transverse direction. Its action was rapid but regular, and over the apex were heard two normal but weak sounds. Over the aorta were heard with some difficulty a muffled first sound, and a reduplicated diastolic sound. With the breath held back, the second sound was heard to be replaced by three distinct short sounds. Although repeatedly examined for, no diastolic bruit was at any time heard. The *post-mortem* examination showed phthisis of both lungs and chronic desquamative nephritis. The right ventricle of the heart was hypertrophied by a half, and the intima aortæ and a few papillary muscles were slightly fatty. The mitral and aortic valves were in no way thickened, and under the water test the latter was found competent. The semilunar valves of the aorta were, however, peculiar, having a step-like arrangement, the posterior valve being at the normal level, the left somewhat lower, and the right lowest of all. They were likewise of unequal breadth and depth, and slightly united at their commissures.

These conditions Professor Drasche considers explain the threefold second sound, the semilunar valves being distended in order with a short but distinct interval. Apparently they were perfectly competent during life, but we can very readily understand how a disturbance of the heart's action—*e. g.*, from an obstruction to the circulation—would influence them, and as this obstruction may be temporary, so might the insufficiency produced be temporary, not necessarily leading to hypertrophy. Perhaps in the first case similar differences of position, size and depth of the valves existed, combined, very possibly, considering the later age of the patient, with thickening and shrinking of the valves, such as was probably present in the mitral valve. While admitting that the above is a possible or even probable explanation of the reduplication of the second aortic sound in this case, we would add the comment that such reduplications have, as Walshe points out, very generally little diagnos-

tic significance. They may be produced by various causes—*e. g.*, a deep inspiration—and appear to originate from a want of synchronism in the contraction of the two sides of the heart. Why should the second sound in this case have been single at the apex? Professor Drasche says nothing of any difference between the three sounds, to explain one being heard rather than the two others, and we can not here give Flint's explanation for the singleness in those cases of want of synchronism referred to above—*viz.*: that the weaker pulmonary sound is not transmitted.—*Med. Times and Gazette.*

Quinine and Opium in 1880.

MR. D. C. ROBBINS, of this city, has recently published a review of the drug trade in this country for the year 1880. We learn from it that the importation of drugs and chemicals into this country has been steadily increasing, and that last year it reached the enormous money value of \$48,073,158. This is an increase of fifty per cent. over the importations of the year 1878.

The facts in regard to the importation of quinine and the cinchona barks are of especial interest.

In 1879 there were 46,700 bales of cinchona bark and 228,348 ounces of sulphate of quinine imported. In June, 1879, Congress took the duty off quinine. In 1880 the importations of bark amounted to only 32,800 bales, while the importation of quinine was nearly doubled, being 416,998 ounces. At the same time the amount of bark in the European markets was very greatly increased.

Mr. Robbins states that the action of Congress in taking the duty off quinine was a foolish one, and failed to secure its object of reducing the price of that drug. The real results, according to the authority quoted, are these: a large amount of bark was turned from American to European markets; the price of imported quinine was raised from \$2.05 to \$2.66; the drug has got into the hands of speculators; American manufacturers have made less of it; and the consumer has had to pay more, on the whole, for his quinine since the tariff was removed from it. The chief trouble lay in the fact that Congress removed the duty on quinine, but left the barks, and the materials with which quinine is manufactured, still among

dutiable articles. Mr. Robbins would have the duty on all barks removed, and a duty of ten per cent. placed on quinine.

Mr. Robbins, moreover, fails to show by figures that quinine has been, on the average, higher since the removal of the tariff. On the contrary, he states that in the first half of 1879, it ranged from \$2.60 to \$3.25 per ounce. After the removal of the tariff, in June, the price having first made a slight advance, fell to \$2.60, which was the ruling price at the end of the year. The average price of imported quinine since the repeal of the duty has been \$2.66. Mr. Robbins does not give the average price of home-manufactured quinine before the removal of the duty, and only says, in a general way, that it was lower.

It was certainly unjust in Congress to remove the duty on the salt, and not that on the bark. But we do not think Mr. Robbins has shown any good reason why a tariff should be put on quinine again.

It is a fact that quinine has been imported for \$2.05 an ounce, while American manufacturers were asking very much more than this. We have yet to see whether the present higher prices are to be permanent. The large and steady increase in the production of bark in India will have the effect of lowering the price eventually. While not wishing any injustice done to American manufacturers; who make the best quinine in the world, we must look chiefly to the interest of the consumers—our patients.

Mr. Robbins gives some statistics regarding the importation of opium. These show that the quantity of the gum imported has not very greatly increased in the past five years. In 1880 the amount was 243,211 pounds; in 1876 it was 228,742 pounds. These figures do not give any basis for the alarms in regard to the reported increase in the use of the drug. They do not correspond at all with the figures, said to be official, given by Dr. Kane in his work, entitled "Drugs that Enslave." According to that authority, the opium imported into the United States in 1876 was 388,311 pounds; in 1880, it was 533,451 pounds.

The statistics regarding the importation of prepared opium, or extract of opium for smoking, are, however, more notable. This form of the drug finds its way into the country *via* San Francisco, and is almost entirely consumed by the Chinese and other opium-smokers. It is a

little startling to learn that in gold value, and presumably in actual narcotic power, the opium used for smoking nearly equals that employed in all other ways.

There were imported 76,196 pounds of this prepared opium in 1880, being an increase of over 20,000 pounds upon the year 1876. The gold value of the opium for smoking in 1880 was \$773,796. The gold value of the gum-opium imported in the same year was \$858,225.

In view of a good many assertions that the practice of opium-smoking is extending from the Chinese to the native Americans, these statistics are worth bearing in mind.

Affections of the Eye Caused by Masturbation.

BY M. LANDESBERG, M. D.

THE relation of masturbation to diseases of the eye, has scarcely attracted the attention of the profession. In the best hand-books of ophthalmology, there is no reference to this subject, and, in the ophthalmic literature, as far as my knowledge goes, this fact is mentioned but twice only. Dieu (see Nagel's *Jahresberichte der Ophthalmologie*, 1872, p. 372) records the case of a boy, of five years, in whom amblyopia developed, in consequence of masturbation. After the removal of the existing congenital phimosis, which was the exciting cause of the self-pollution, the latter was given up, and vision gradually improved to normal condition. Fœrster (see *Hand-buch der gesammten Augenheilkunde*, von Græfe und Sæmich, V. vii., part V., p. 102) has witnessed instances of intractable chronic catarrh of the eye in patients of from twelve to twenty years, in whom onanism was ascertained to be the only cause of the affection. For my part, I have reason to assume that chronic inflammations of the eye, resulting from masturbation, are not of such rare occurrence, as we might be led to infer, from the scarcity of published material on this subject. I remember having met in my practice with many cases of obstinate catarrhal affections of the eye, which I had to give up in despair, after a protracted course of unavailing treatment, or the patients left me, in order to seek better advice. At the time, I was at a loss to account for the intractableness of such cases. Catarrhal affections of the eye generally give a

good prognosis, and are easily cured, if properly attended to. I had to yield to the evidence that there are some forms of affection of the conjunctiva, in which the treatment fails to bring about the usual beneficial effect. These forms I generally met with in children of either sex, but occasionally, also, in adults. When I afterward learned the intimate relations that exist between some morbid processes of the eye and masturbation, there was no doubt left to me about the nature of all those intractable cases which have been so mortifying to the self-confidence of the physician. This opinion was corroborated by the many other indications of self-pollution which I had observed in these patients, and the pathognomonic symptoms of which I utterly disregarded for want of the proper knowledge of this peculiar coincidence.

The first case that gave me the key to the problem, was a merchant, aged thirty-three years, who came to me suffering from chronic catarrh of both eyes. He had been for nine months under the care of a prominent oculist, who had tried every available remedy without any result. There were no anomalies of refraction or accommodation. Both eyes showed only the symptoms of chronic catarrh with slight blepharitis. The affection had lasted for about a year. No reasonable cause of the morbid process could be elicited. There was no inflammation of the other mucous membranes. General health was good. The patient was in good circumstances, and temperate in his habit of drinking and smoking. He was very anxious to get rid of his trouble, and was willing to undergo any treatment for this purpose. I must say that I was not a little astonished at the failure of the previous treatment, the traces of which (slight argyria) were seen on both eyes. I made a good prognosis, and promised a perfect cure.

In the course of the treatment, I was struck by the observation that the improvement I succeeded in bringing about in the condition of the eyes did not remain steady, but was interrupted by frequent exacerbations of the morbid process. For a long while I was baffled in all my efforts to find any plausible explanation of this strange incident. One day, when my patient came to me with a renewed relapse, it occurred to me that the pimples he had on his face were much more inflamed, and more numerous than on the preceding days. On further observation, I ascertained, beyond any doubt, that the increase

of the inflammation and number of the pimples always coincided with the deterioration of the morbid process of the eye. The connection of pimples of the face with masturbation, I had frequent occasion to establish in either sex. I was roused to the suspicion whether the anomalous affection of the conjunctiva might not depend altogether upon masturbation. I inquired of the patient concerning his habits in regard to the other sex. He told me that, for the last eighteen months, from the time he had incurred a gonorrhœa, he had discontinued all sexual intercourse with women. On further inquiry, he confessed that from that time he had been masturbating about two or three times a week. The pimples of his face developed consequently. He has, also, observed that after masturbation the condition of his face and of his eyes becomes worse. This coincidence impressed his mind so strongly, that he had spoken with his family physician about it, but the latter had derided any possibility of such a relation.

I imparted to him my conviction that onanism has been, in his case, the only cause of his eye affection, and that no cure could be effected, unless the habit was totally abandoned.

The patient being of a resolute nature, at once discontinued the practice, and had the satisfaction of seeing his eyes gradually improve, without any further treatment whatever. In the course of a month all traces of the inflammation vanished, and the face became smooth and fair.

From this occurrence I made a point to inquire, in every instance of intractable catarrh of the eye, after this possible error of youth. I learned from experience that it is very difficult to find out the truth in this matter in the male sex, but that it is almost impossible to ascertain it in the female one. I suspected many a case, but I can only record the two following, in which the relation was fully established by the confession of the patients themselves :

I. A merchant's son, fourteen years old, suffering for years from chronic conjunctivitis of both eyes, which had baffled the skill of many oculists to whom he had applied for help. The eyes showed no other anomaly besides this chronic affection, the real nature of which was at once revealed to me by the unmistakable evidences of self-pollution which the patient bore. On my examining him

to this effect, he emphatically denied having ever indulged in such a habit. But my prognosis was corroborated by the aid of his brother, whom he often tempted to this evil doing. At last he himself confessed to having masturbated from his eleventh year of age. The affection of his eyes had developed consequently. I abstained from all therapeutics of the eyes properly, but resorted to such remedies and hygienic measures as are used in such an emergency. The only effectual remedy in this instance proved to be *the cauterization of the prepuce*. The recovery was complete, and the eyes became perfectly normal.

II. Miss R., seventeen years old, applied to me with chronic conjunctivitis and blepharoadenitis of both eyes, of which she had been suffering for about three years. During this period she had repeatedly resorted to a variety of medical treatment with but little effect. The eyes showed no other affection. There were marked evidences of self-pollution, but I was not at liberty at the time to utter my suspicion. After a month of unavailing treatment and observation, there was no doubt left to me about the connection of the affection with masturbation. I revealed to the mother the hidden cause of the eye-trouble of her daughter, with the intelligence that there was no hope of improvement unless the habit was given up. Patient confessed to having masturbated from her thirteenth year. There was no morbid alteration of the sexual organs. She now strove with all her power to discontinue the practice of onanism. Bromide of potassium, daily exercise, carried to fatigue, cold washing of the body before bed-time proved the most successful. The recovery was slow, and interrupted by many relapses. It was an interesting fact that *every relapse into the bad habit was evidently shown by the exacerbation of the morbid process of the eyes*. The final result was good. There was complete cure of the eyes without any special treatment.

Adulterated Coffee—How to Detect it.

GROUND coffee affords a field for adulteration, and for this purpose chicory, carrots, caramel, date-seeds, etc., are the substances most commonly used. The beans have of late years been skillfully imitated, but as coffee is mostly

purchased in the ground condition, the chief point for the consumer is to be able to form some idea as to the character of the latter article, and the following are a few simple and reliable tests:

Take a little of the coffee and press it between the fingers, or give it a squeeze in the paper in which it is bought; if genuine, it will *not* form a coherent mass, as coffee grains are hard and do not readily adhere to each other; but if the grains stick to each other and form a sort of "cake," we may be pretty sure of adulteration in the shape of chicory, for the grains of chicory are softer and more open, and adhere without difficulty when squeezed. Again, if we place a few grains in a saucer and moisten them with a little cold water, chicory will very quickly become soft like bread-crumbs, while coffee will take a long time to soften. A third test: take a wine-glass or tumbler full of water and gently drop a pinch of the ground coffee on the surface of the water without stirring or agitating; genuine coffee will float for some time, whilst chicory or any other soft root will soon sink; and chicory or caramel will cause a yellowish or brownish color to diffuse rapidly through the water, while pure coffee will give no sensible tint under such circumstances for a considerable length of time. "Coffee mixtures" or "coffee improvers" should be avoided. They seldom consist of anything but chicory and caramel.

"French coffee," so widely used at present, is generally ground coffee, the beans of which have been roasted with a certain amount of sugar, which, coating over the bean, has retained more of the original aroma than in ordinary coffee, but, this, of course, at the expense of the reduced percentage of coffee due to the presence of the caramel.

Neuralgia of the Testis.

BY GEO. HALSTED BOYLAND, A. M., M. D.,
Late Surgeon French Army, etc.

THE surgeon will, now and then, meet with a case that by careful diagnostic exclusion can not be designated as either orchitis, epididymitis, or vaginalitis.

Neuralgia of the testis, in a strict sense, is characterized by irregular attacks of heavy, sticking, tearing,

burning pains in the testicle; in one case that recently occurred in my practice, the symptoms stopped here, but in the more severe cases they are accompanied by nausea and vomiting, generally with spasmodic shortening of the cremaster, and consequent drawing up of the testicle, entirely independent of external influences. Nevertheless, there are cases in which, after oft-repeated attacks, an extreme sensibility of the testis remains, so that palpation calls forth a fresh attack. The severity of single attacks can attain such a pitch as to throw the patient into a state of violent excitation, and cause him to be covered with perspiration, to dance about, shrieking. Almost always, neuralgia of the testis affects only one side.

Ætiology.—This is a dark point. The spermatic nerves can be painfully excited at times from the periphery; at others, from the spinal marrow. In some instances, neuralgia of the testis has been produced by irradiation, during the passage of a renal calculus through the ureter, analogous to the cramp of the cremaster, more often observed in this condition. Such a neuralgia can seldom be traced to a chronic orchitis. The disturbance in the digestive organs, to which single attacks of the evil have been attributed, is probably only due to a similar cause, and to one at the same time remaining unknown.

Treatment.—From the foregoing it will be logical to deduce that our therapeusis can not be what is technically called *rational*. In the irregular intermitting cases, good results have been obtained from the exhibition of quinine and Fowler's solution. In general, as in other neuralgias, quieting and strengthening medicines ought to be employed. The preparations of opium, hyoscyamus, aconite and belladonna have been given inwardly and applied outwardly with doubtful results. I have found the following of great service:

| | | | |
|------------------|------------------------|---------|----------|
| R _y . | Tinc. cannabis indica, | gtt. xl | |
| | Potass. brom., | 3 ij | |
| | Aqua destil., | ad | 3 iv. M. |

Sig.—Tablespoonful every hour, until relieved.

Of course, the bowels must be kept open; for this, mild saline laxatives are best adapted. Dry heat, applied to the testicle on cloths, is a valuable adjuvant. The continued internal administration of iron is good treatment. So, also, with turpentine, especially in cases where it is

undoubtedly a question of kidney trouble. The patience of the sufferer is often exhausted by the persistency of the evil, and he begs for castration. But this sacrifice of a healthy organ should be rejected, the more so, as the disease is always of a more or less constitutional nature; nevertheless, comparatively minor operations, such as ligation of the veins of the spermatic chord, and incision of the tunica albuginea, have been productive of remarkably favorable results.

Resection of the Stomach.

DR. S. J. MIXTER reports the following in the *Boston Medical Journal* of March 10th:

It is well known that resection of the stomach has, up to the present time, never been successful; but it gives me much pleasure to state that the operation has at last been performed with the most satisfactory results. On January 29th, Professor Billroth, in an operation which I had the advantage of witnessing, removed the pylorus and about one-third of the stomach for carcinoma, and the patient has made a good recovery.

In his public clinical lecture on the 31st, Professor Billroth gave an account of the case, as well as a short history of the operation and the experiments that have led to its successful performance. The substance of this lecture appears in the *Wiener Medizinische Wochenschrift* of February 5th.

The history of the operation is as follows: In 1810 Merrem published a work on this subject, giving the results of his experiments on dogs, two out of three having survived the extirpation of the pylorus and sewing together of stomach and duodenum. In spite of these results, the operation was not attempted on man, and, though surgeons of different nationalities investigated the subject, no material advance was made until Lambert discovered the true method of uniting all wounds of the intestinal tract; namely, opposing the serous surfaces. After this, recovery after sewing up of intestinal wounds became more frequent.

In 1871, Billroth excised a part of the œsophagus in a large dog, the operation being followed by recovery. Czerny first performed this operation on man with good

results. This was shortly followed by the experiments of Gussenbauer, Winiwarter, Czerny and Kaiser on resection of different portions of the intestinal tract in dogs. These operations when performed with antiseptic precautions, were very successful, and in one case the whole stomach was removed, and the œsophagus and duodenum united with good result.

In 1877, Billroth operated on a gastric fistula following abscess by opening the abdomen at that point, excising the thickened, adherent edges of the gastric opening, sewing up the wound, returning the stomach to the abdominal cavity. The patient made a good recovery.

In 1879, Pean, of Paris, first resected the pylorus for carcinoma in a patient who was greatly exhausted by the disease, and who died on the fourth day. Catgut sutures were used.

The present case is that of a woman, forty-three years of age, who had had the usual symptoms pointing to cancer of the stomach for more than a year. The patient was very anæmic and weak, having been able to retain only very small quantities of sour milk for several weeks. A freely movable tumor could be felt in the epigastrium, through the thin, flaccid abdominal wall lying slightly to the right of the median line.

The operation was performed in the small room always used for large abdominal operations, the temperature being high and the air moist. The stomach was washed out, and a nearly horizontal incision, eight centimeters long, was made over the tumor, which was drawn out through the opening. It was found to involve the pylorus and about one-third of the stomach.

First, the greater, and then the lesser omentum were ligatured and cut through close to the tumor, and the whole stomach being drawn out of the abdominal cavity, was divided, the cut beginning at the lesser curvature and passing through the stomach, one centimeter from the infiltrated portion. The duodenum was incised in like manner, and six trial sutures were passed through the cut surfaces but not tied. It being found that the edges could be easily brought together, the incisions were continued through both stomach and duodenum, and the tumor thus wholly removed.

The oblique wound in the stomach was then sewed up, beginning at the greater curvature, until an opening was

left which corresponded in size with the duodenum, which was then stitched into the opening. Lambert's stitch was used throughout, fifty-four carbolized silk sutures being applied.

The stomach was then washed with two per cent. carbolic solution, and the whole returned into the abdominal cavity, which was closed in the usual manner. A carbolized gauze dressing was applied, which was not removed until the sixth day. The spray was not used. Hemorrhage throughout the whole operation was very slight, and no blood or fluid was allowed to get into the abdominal cavity, warm carbolized compresses being packed behind the stomach while it was open.

The mass removed measured on the greater curvature fourteen centimeters; the pylorus opening allowed only a large probe to pass.

Since the operation there have been no unfavorable symptoms; no fever, no vomiting, scarcely any pain, in fact, the patient has been much more comfortable than for weeks before the operation. The external wound has entirely healed.

Wine and peptone enemata were given for two days, and since then only wine. By the mouth, only ice for the first twenty-four hours, then milk in small quantities. On the eighth day *bouillon*, with egg, and later, meat and apple *purees*, have been taken without bad effect.

Now, on the fourteenth day, the patient is allowed to sit up, and in a day or two will be able to take meat and other solid food.

The success of this operation marks a great advance in abdominal surgery, and enlarges still farther the field of the surgeon. The technical difficulties of the operation are not greater than in many other cases; even the difficulties of diagnosis are now much lessened when the abdominal cavity can be opened and its contents examined, with almost no danger to life, and the methods of illuminating and exploring the stomach are being daily more and more perfected.

The operation may not always be successful or applicable to all cases, but it will relieve, even if it does not permanently cure, many patients whose sufferings are generally intense, and who have no hope of cure by the means hitherto employed.

Hydrate of Chloral in Treatment of Tetanus and Puerperal Convulsions.

As far as the indications for treatment are concerned, it matters little whether the former is produced by a rusty nail in the foot, a pistol shot in the hand, or by an incised wound of any part of the body; or whether the latter is due to uremia, anemia, plethora, protracted labor, or to any of the other supposed causes. It is *the violence of the spasm that kills*, and to its mitigation must your efforts be directed if you would save your patients.

In a case of tetanus I administer ten, fifteen, twenty, or thirty grains of chloral, according to the age of the patient, every two, three, four, or five hours, as the severity of the spasm requires, alternated with one-fifth, one-fourth, one-third, one-half, or three-fourths of a grain of morphia by the mouth or hypodermically, and continue it faithfully for days and weeks until the disease begins to decline, when I decrease the dose gradually till the patient no longer requires it.

In puerperal eclampsia, if the patient can swallow, I give thirty grains of chloral by the mouth, and twenty grains more in an hour if the convulsion returns; or if she is unconscious, as is most generally the case, I administer sixty grains per rectum, and repeat the same dose in two hours if necessary. Usually a dram used in this way is all that is necessary to prevent a return of the spasm and to induce a natural and refreshing sleep, from which the patient will awake in five or six hours perfectly rational and safe, and surprised to hear that her labor is over. I use an ounce of sweet milk as a vehicle for the chloral, and inject it into the bowel with a Davidson, Mattison, or any other ordinary syringe.

CASE I.—In February, 1877, G. H., age nineteen, cut his foot with an ax. Ten days after tetanus supervened. I gave him twenty grains of chloral every four or six hours, and one-fourth to three-fourths grain of morphia hypodermically three or four times daily for a month. He recovered, but with some deformity, which is gradually disappearing.

CASE II.—In July last, R. G., age fourteen, shot himself through the first phalanx of the little finger of right hand. In a few days stiffness of the muscles of mastication ap-

peared, and a few days subsequently he was as rigid as a frozen cadaver. His urine for ten days had to be drawn off with a catheter. During the greater part of his illness he could not cover the bulb of the thermometer in the axilla, so great was the rigidity of the muscles in that region. I gave him ten grains of chloral alternated with one-fifth of a grain of morphia every three to six hours for six weeks. He recovered, but like case first, with some little deformity, which, however, is rapidly disappearing.

The cases of eclampsia are as follows :

CASE I.—Mrs. B., age nineteen, primipara, in May, 1878, after an ordinary labor of several hours, with the os fully dilated, was seized with a terrible convulsion. As soon as I could procure it (in ten minutes probably), I threw into the rectum one dram of chloral, sent for the forceps, and delivered her at once. The spasm returning, I repeated the dose ; the patient soon fell into a quiet sleep, which lasted six or eight hours, when she awoke to consciousness and safety.

CASE II.—Mrs. S., age eighteen, primipara, in August, 1879, three hours after delivery by midwife, was attacked by convulsions, which recurred every thirty minutes, and increased in severity with each recurrence for four hours, when I was called to see her. I gave her at once sixty grains of hydrate of chloral by the rectum. Three hours afterward she had another light seizure. She was then given twenty grains by the mouth, after which she slept for six hours, and upon waking expressed great surprise that she was a mother.

CASE III.—Mrs. B., age twenty, primipara, in July, 1880, eight hours after an easy and natural delivery by my friend, Dr. Cannon, was seized by an eclamptic fit. We saw her together about an hour afterward, and found her unconscious, with stridulous breathing. We administered per rectum the "regulation dose"—sixty grains of chloral. There was no return of the spasm, and the patient did well.

I wish to say in conclusion, that while I regard chloral as one of our most active and certain remedies, I consider its range of applicability very limited.—*Dr. Easley, in Louisville Medical News.*

Schizophytes of the Atmosphere.

THE *American Monthly Microscopical Journal* for January translates a paper of M. Pierre Miquel on the above subject. Our readers who have difficulty in distinguishing bacteria, vibrionese, etc., will doubtless thank us for republishing portions of this valuable paper.

"*Micrococcus*, Hallier.—This name is given to a number of minute spherical or oval cellules, motionless, isolated or in couples, sometimes serially disposed like a string of beads. The colored micrococci or chromogenes, studied by Professor Cohn, possess no physiological interest, while those studied by M. Pasteur are, in this connection, quite remarkable; of these may be cited the *M. urea*, the acetic ferment (*Mycoderma aceti*), and the viscous ferment. According to Hallier, the pathological micrococci are quite numerous; however, up to this time their existence is regarded as hypothetical by the most authoritative savants, De Bary, Hoffman, and Cohn himself, who, nevertheless, admits the existence of the micrococci of vaccine, of diphtheria and of septicemia.

"*Bacterium*, Dujardin.—This genus is restricted to motile forms of cells, longer than broad, isolated or united in twos, fours, and rarely in large numbers. The true bacteria differ from the bacilli by their short articulations, and from micrococci by their movement. These characters are, indeed, of little help to the microscopist who is called upon to determine the genus of a microbe by a simple examination. Often, in fact, at low temperatures and in media poor in oxygen and plastic materials, the bacilli greatly resemble bacteria. Schroter has described some chromogene bacteria, Ehrenberg the *Bacterium termo* and *punctum*, Dujardin the *B. catenula*, finally Warming three or four other varieties.

"*Bacillus*, Cohn.—Among the species placed in this group are all the motile or motionless organisms in the form of rigid rods, long and short, large and small, disposed in chains of one, two, three or more articles; one is naturally led to place in this category all bacteria of considerable length.

"Among the more remarkable bacilli should be cited *bacillus anthracis*, discovered by Dr. Davaine, and which was recently the object of researches by MM. Pasteur and Joubert; the butyric ferment of Pasteur, one of the

most singular of the rod-like forms; the lactic bacillum, and some others of the wine and silk-worm maladies.

"The *Bacillus amylobacter*, studied by MM. Trecul and Van Tieghem, which has been classed as a distinct species, according to the recent work of Van Tieghem, is merely the butyric ferment; from which it results that the same organism possesses the power of transforming calcic lactate into the butyrate (Pasteur), of causing fermentation of cellulose (Van Tieghem), and of a large number of other substances, with a disengagement of hydrogen. If one adds to these facts, that the butyric ferment of Pasteur lives and develops in the absence of the oxygen of the air, one will understand the importance attached to a perfect knowledge of many fermentations, of which this organism may be the primal cause. Dr. Davaine has described several bacilli of putrefaction, the physiological functions of which are less perfectly known.

"Finally, Cohn has given the name *Bacillus subtilis* to a rod-like organism, to which it is tacitly agreed to join all the bacilli that are not yet classified, with a laudable desire to avoid confusion.

"*Leptothrix*, Kützing.—The filaments of leptothrix are long, motionless, not ramifying, without visible partitions, and are not characterized by any physiological function worthy of mention. Ch. Robin has described *Leptothrix buccalis*, which he considers, with reason, may belong to the bacilli.

"*Vibrio*.—The species forming this genus are readily distinguished from those of the preceding; they are always motile, of soft consistence, without rigidity, and progress in an undulating manner like eels. Muller has described *Vibrio serpens* and *rugula*. M. Pasteur has published, in a recent memoir, his researches on an anærobic vibrione which may be the cause of septicæmia.

"There are, besides, microbes very elegant in form, curved like a helix, which have been named spirillæ (*Spirillum*, *Spirochæte*, Ehr.) One of them, the *Spirochæte Obermeieri*, has been found in the blood of patients suffering from recurrent fevers. Dr. Heydenreich has published a monograph upon this organism. In forty-six cases of recurrent fever, studied with great care by him, the organism discovered by Obermeyer always appeared in the blood during the crisis, to disappear during the remission. Placing the blood of a patient in one of the

halls of the hospital, at the ordinary temperature, the doctor has observed the spirillum die at the end of several days, at the temperature of the body it lives only ten or twelve hours, and it dies at the end of four hours at a temperature precisely equal to that of fevers. In consequence of these experiments several persons voluntarily submitted to inoculation with the helix-like organism, and became affected with recurrent fever."—*Louisville Medical Herald*.

On Extra-Genital Chancres.

BY F. R. STURGIS, M. D.,

Clinical Professor of Venereal Diseases in the University of the City of New York; Visiting Surgeon to Charity Hospital, etc.

THE belief that all venereal sores must of necessity be situated upon the genital organ has been the means of obscuring our recognition of the commencement of syphilis, and the cause of our non-recognition of the initial-lesion, merely because it is not seated where we think it ought to be. Surgeons are too apt to forget the aphorism that the initial-lesion of syphilis is met with everywhere and anywhere upon the body; no spot is so inaccessible or so unusual as to be exempt. It has been met with in the rectum, on the fingers, on the tongue, on the lips, in the nose, on the eyelids, on the cheek, on the tonsils, on the ear, on the nipples; name but a region of the body, there will be found the initial-lesion.

It is the danger resulting from ignorance or carelessness of this fact that induces me to write the present paper, hoping that by calling attention to the danger greater care will be exercised in the diagnosis of this class of affections.

In my wards at Charity Hospital, this present winter, I have had many interesting cases, which have been shown to my classes, and which I hope may be of sufficient interest to the profession at large to excuse my publishing them here.

CASE 1.—Was where the initial lesion was seated upon the lip, and occurred in the person of a young woman, 18 years of age, who was admitted to Charity Hospital on November 18th, 1880, with the following history: She

says she has cohabited with but one man (her seducer) for the past eighteen months prior to her entrance into the hospital, and during that time coitus was repeatedly indulged in, without any bad effect until August 15th, 1880. At present she states, and upon this point she is very positive, that she never had anything wrong with her genitals. At the date above specified (August 15th, 1880), she noticed that her lip was swollen, hard, not painful, and very superficially ulcerated. As to glandular induration in the neighborhood of the lesion on the lip she is unable to say anything. On September 1st, 1880, an eruption, from her description probably papular, appeared upon the thighs, legs and abdomen. On October 1st, 1880, for the first time she had some trouble with her external genitals, which lasted for a couple of weeks, and for which she received treatment before entrance into the hospital.

A personal examination made then revealed the following condition of things: On the lower lip, a little to the left of median line, is a lump of indurated tissue, the size of a hazel-nut, which bears traces of superficial ulceration on the mucous surface of the lip; on the legs, arms and thighs is a coppery-colored papulo-pustular eruption, thickly scattered over the former, sparsely over the latter. There is no alopecia, no sore throat, nor iritis. The submaxillary and submental glands are indurated, but it should also be said that she has adenitis universalis.

A careful examination of the genital organs failed to reveal any traces of induration at the cervix uteri, in the vagina, or at the vulva. The inguinal glands were slightly indurated, less than were the glands elsewhere on the body.

Unfortunately, confrontation was impossible, as no means existed of finding the man; but there is no reasonable doubt as to the fact that the initial lesion was seated, in this case, upon the lower lip, and that the genitals entirely escaped.

On November 29th mucous patches appeared upon the tonsils, and on December 2d she had a mucous patch between the second and third toes of the right foot.

The second case is still more interesting. Here the initial lesion was seated upon the left tonsil, and the subsequent manifestations render the diagnosis positive as to the question of syphilis.

CASE II.—K. E., aged 27, single. Domestic. Admitted February 23d, 1881. Denies any previous venereal trouble. Has always been well. For the past four weeks has been troubled with a sore throat, and one week ago (February 16th, 1881,) she noticed a macular eruption on knees and thighs, which has since spread over the entire body, although still most abundant on legs and thighs. No definite history of infecting coitus. No evidence of an initial lesion can be found on any part of the genitals; the inguinal glands, though slightly enlarged, were not so much so as is usual when the specific ulcer is seated upon the genitals. On examining the mouth and throat, the left tonsil was found to have a shallow ulceration, 1" long by $\frac{1}{4}$ " wide, with hard and gristly edges, on quite a hard base, with marked infiltration throughout the entire tonsil and anterior fauces. Externally the tonsil was enlarged and hard. Submaxillary gland of the left side was slightly indurated; the gland of the opposite side was not affected.

This ulceration does not look like a mucous patch, nor are there any in mouth or throat. There is a maculopapular syphilide on body, with anterior and posterior cervical adenitis on both sides. Epitrochlears not enlarged. Treatment: Pil. duo.* No. 1, *t. d.* Calomel to throat locally.

March 3. Induration of edges of ulcer on left tonsil, and the great infiltration found before materially diminished, leaving doughiness behind. Tonsil one-third of its former size.

In view of the discussion which has recently taken place at the late meeting of the Public Health Association, it is of value to weigh the methods by which syphilis may be innocently conveyed; and this I say advisedly, for it is a gross error to consider that syphilis *must* be contracted *per coitum*.

Not at all infrequently it is conveyed in a perfectly innocent manner, by innocent people, as witness my own case (*American Journal Medical Sciences*, 1873), where a boy, 3 years of age, conveyed syphilis to his sister, aged 6, from the mother's neglect to carry out the precautionary measures she was instructed to. Since the case was

*This is the pill of mercury and iron.—"Vide Manual of Venereal Diseases" (Sturgis), p. 102.

reported, the girl had become emaciated and anæmic, and had developed, when last seen, two years since, periostitis of both tibia. Here is evidently a case where the ounce of prevention is worth the pound of cure.

Another case: A young man with a recent syphilis (mucous patches of tongue, lips, etc.,) consulted me for his own trouble, and incidentally informed me that his fiancée had a curious looking swelling of the lip. What could it be? It could be a good many things: better bring the young lady and let the Doctor see her. This, after some persuasion, was consented to, and a typical initial lesion with a subsequent macular syphilide set at rest the question, not only of what it could be, but what it was. Here it had also been done by kissing, in a perfectly innocent and proper manner, and, from ignorance, a rather pretty young girl became the victim of this infernal disease.

The use of household or other utensils is another means of propagating syphilis, and cases are reported where a spoon, a drinking glass, a pipe, a cigar, and dental instruments, have been the means of communicating the disease.

All these facts would seem to plead strongly for means to check (if it be possible) the spread of the disease, and to keep it within limits; but the first of all things is to instruct the medical portion of the community as to their responsibility in the matter, and that they shall be alive to the fact, first, that syphilis may be conveyed by other means than by improper or sexual relations, and second, that the secretion of mucous patches and the blood certainly, during the first twelve months of the syphilis, is capable of conveying the disease as certainly and effectively as is the initial lesion.—*American Specialist*.

Removal of the Vagus with a Cervical Tumor—Cure.

PROF. LU (*Cbl. f. Chir.*, 1880, No. 36) reports the following case: A woman whose sister had died with lymphoma malignum of the neck applied for relief from a tumor, oval in shape, rather hard, movable, and situated in the right submaxillary region. It was removed with-

out difficulty, and the wound healed by first intention. On examination of the tumor by Prof. Recklinghausen, it was pronounced a hyaline cancrroid, connected with, but not implicating the salivary gland.

About two years later the patient again applied for treatment, the disease having returned in the cicatrix and also under the right sterno-mastoid. There was no functional disturbance; the patient's health was fair. The smaller tumor in the scar was removed with some difficulty, being found to lie more deeply than appeared from its growth externally. There was much venous hemorrhage. The new, large tumor was laid bare by an incision along the edge of the muscle, which was closely connected with it. On cutting this above and below, the carotid was found separable from the tumor, but the latter had grown completely around the jugular vein and the vagus. The vein was close to the upper border of the clavicle and above the tumor, and with a portion of the vagus twelve centimeters (four inches) in length.

No noteworthy alteration in respiration and pulse occurred at the moment of section. The wounds healed rapidly. Five months later the patient showed easily excited but otherwise normal respiration, the right arm was slightly weaker than the left, and the shoulder could be raised with difficulty. The right side of the neck was flattened; the pulsations of the carotid could be felt along the whole course of the scar. Pressure on the latter, particularly at the upper and lower stump of the muscle, aroused fits of coughing. There was suspicious hardness in the submaxillary scar, but no positive return to the growth. The right side of the face, particularly about the cheeks, showed a hypertrophic condition, most likely the result of the ligature and removal of the common jugular vein.—*Medical Times*.

A NOVEL METHOD OF TREATING ANTEFLEXION.—In a recent clinical lecture by Dr. Jno. Forsyth Meigs, reported in the *Virg. Med. Month.* for Dec., that gentleman advances a novel notion about the treatment of anteflexion and the causation of irritable bladder in that class of cases. Says the eloquent Doctor: "But how, you will ask, do I intend to cure anteflexion? Why, by making the woman teach her bladder to hold gradually more and

more urine. The more urine the bladder can be made to hold, the more thoroughly will the anteflexion be reduced. Nine-tenths of her constant micturition is only fanciful. There is no reason whatsoever why the bladder should not do its proper work. She should be made to hold first four, then six, eight, ten, and finally twelve ounces of urine. When it can hold twelve ounces the anteflexion will be largely reduced." We should think so !

MICROSCOPY.

THE NUCLEUS.—Says Dr. Green, in his recent new edition of his work on pathology: "The nucleus has usually been looked upon as the seat of nutrition, as distinct from the specific functions of cells, and has been supposed to play an important part in their multiplication and reproduction. The fact that when a cell divides, the division usually commences in the nucleus, and only subsequently takes place in the rest of the cell, would appear to favor this view; as would also the great uniformity of the nucleus both in size and form, whatever be the functional nature of the cell. It must be borne in mind, however, that non-nucleated cells may multiply, and that nucleated cells have been observed to divide, the nucleus itself taking no part in the process. Whatever be the part played by the nucleus, there can be no doubt that the protoplasm is the most important factor of the cell, and it may itself be the only constituent. The spontaneous movements, alterations in form, and migratory powers characteristic of young cells, are due to the protoplasm. Such movements are observed in the cells of the embryo, in lymphoid and young epithelial cells, in some of the cells of connective tissue, and in white blood and pus cells.

THE VEGETABLE CELL.—At a late meeting of the Edinburgh Botanical Society, Mr. J. M. Macfarlane read a paper "On the Structure and Division of the Vegetable Cell," in which he stated that he had observed within the nucleolus of the cell a body which he proposed to call the nucleolo-nucleus, and of whose behavior in the process of cell development he gave a somewhat detailed ac-

count. Prof. Dickson said that, whereas division of the cell was known to be preceded by the division of the nucleus, Mr. Macfarlane carried the matter further back, and showed that division of the nucleus was preceded by division of the nucleolus; and that, again, although, perhaps, a little additional observation was still required, he believed to be preceded by the division of the nucleolo-nucleus. It might be a question whether the nucleolo-nucleus was the most important factor, or whether it might be subordinate to the nucleolus or the nucleus; but if the matter was as Mr. Macfarlane showed, that all went to show the probability or possibility of this newly-discovered structure proving of very great importance.

GLEANINGS.

BY CHAS. A. L. REED, M. D., HAMILTON, OHIO.

CLINICAL STUDIES OF INEBRIETY.—T. D. Crothers, M.D.—Some years ago I was informed by a physician that the treatment of inebriety was most successful when the patient was given alcohol in all his food and drink, until both body and mind repelled it, or he was so thoroughly disgusted as to be forever weaned from it. A physician in Ohio wrote me that a lady in his neighborhood had attempted this plan of treatment with her inebriate husband, which resulted in developing a furious mania, five days after, and his commitment to an insane asylum as a dangerous person.

Dr. Beike, a Swedish physician, gave me the following account of the only test of this plan of treatment which I have been able to find, and which I think is the foundation for all the stories of this theory that have appeared. In 1856, a clergyman in Stockholm, Sweden, who was also a physician and wealthy, obtained permission from the authorities to receive inebriates in his home for treatment on this plan. Three chronic cases were put under his charge, and were given brandy in all their food and drink, and not allowed to take any food that was not saturated with some form of alcohol. Each patient was given that kind of spirits which they had used commonly, in addition to the brandy. In the course of two months six patients were received and treated on this plan. One of them died two weeks after admission, of apoplexy or cerebral hemorrhage; two developed dangerous cases of delirium

tremens, and were sent to the hospital; the fourth patient became violently delirious, and destructive in his mania, and was committed to an insane asylum; the other two seemed to have gone on quietly, in a condition of semi-stupor, or alcoholic narcotism. The authorities interfered, and the clergyman was forced to move away to escape persecution from the indignant friends of the patients. In a copy of the *London Times*, of 1860, I find a letter from a Dr. Brown, stating that he tried this plan of treatment for two days in three cases, and the effects were so alarming that he gave it up. The advice, not unfrequently given to inebriates, to change the form of drink used, is attended with dangerous results always—[*Med. and Surg. Reporter*, Phil., Feb. 5.

RUBBER SYRINGE AS A STOMACH PUMP.—J. A. Grant, M.D.
—Boy, æt. 6, accidentally swallowed carbolic acid bug poison. After pouring oil down the throat, I endeavored to use the stomach pump, and discovered that the instrument was broken. Having no better appliance at hand I inserted the long tube of an ordinary india-rubber injection pipe into the stomach quite easily, and pumped in a quantity of water, which I hoped to remove by leaving only the tube *in situ* and changing the position of the child. Such, however, was unnecessary, as after the tube was detached from the body or central part of the instrument the fluid from the stomach rushed out at a bound through the tube, and thus the contents of the stomach were rapidly and unexpectedly removed. This washing out process was repeated three times in the space of a few minutes, after which the ejected fluid gave no particular indications of carbolic acid. The return of sensibility was slow, and for five hours the body temperature was low, pupils moderately contracted, skin pale, and the lips, chin and mucous membrane of the mouth presented quite an excoriated appearance from the direct effects of the carbolic acid, all of which was much benefited by the free application of olive oil. As is well known, the employment of an ordinary stomach pump requires care, in order to avoid injury to the soft parts from the ivory end of the tube. Several such records of injury are published. The application of the ordinary india-rubber syringe is, however, superior to any other appliance in such cases—first, from its great simplicity; second, from the ease of

application; and third, from the fact that when the body of the instrument is detached, the ordinary contraction of the stomach, diaphragm, and the abdominal muscles will expel the contents of the stomach freely, without any effort being made to pump out the fluid in the usual way. Thus it appears that the contact of the tube with the gastric walls excites reflex expulsion, like the tickling of the throat with the finger or a feather in order to induce emesis.—[*Canada Med. and Surg. Journal*.

OZÆNA CURED BY IODOFORM.—Dr. George Leetzel (*Algem. Med. Central. Zeitung*, June 5th, 1880,) was induced to use iodoform in ozæna by the favorable results which followed its use in otorrhœa. He used a powder consisting of 2 parts of iodoform and 10 parts of pulverized gum arabic. This is used as a snuff, being drawn into the nostrils from three to six times a day. In the six cases treated by this method the results were exceedingly favorable. Two cases, which had lasted for months, and in which every means which could be thought of had been tried without any benefit, were completely cured within ten or fourteen days. The other four cases, which were less severe, were cured in from six to eight days. Before using the powder, Dr. Leetzel cleanses the nose as thoroughly as possible with the nasal douche, and removes all scabs by means of the ear-scoop, so as to allow the powder to come directly in contact with the mucous membrane. With reference to the unpleasant smell of the iodoform, he says that it is at least less disagreeable than the odor caused by the ozæna itself. This treatment commends itself for its simplicity; but it should be mentioned, in using the nasal douche, that Dr. Roosa, of New York, and others have found that, unless very great precautions are observed, it is liable to lead to deafness. Dr. Lennox Browne, who is attached to a hospital where both throat and nasal and ear diseases are treated, states that he has frequently observed this result. Browne on *Diseases of the Throat*, pp. 65 and 166.—W. C. D., in *Virginia Med. Monthly*.

ALCOHOL IN MEDICAL PRACTICE.—Dr. T. J. Ridge, the Honorable Secretary of the British Medical Temperance Association, has republished, in cheap pamphlet form, a paper which he read at a conference at Bristol in October last, in which he deals with the question, "What are med-

ical men to say about alcoholic beverages? He endeavors to prove that these should be prohibited by medical practitioners, and employs the statistical method largely to that end. Without entirely following Dr. Ridge in all that his deductions lead to, we are prepared to grant that he has very much evidence upon the side he supports; and, further, that an altogether unjustifiable amount of indiscriminate stimulant-ordering is indulged in by physicians. It is difficult, however, to progress from this to absolute deprivation in all cases, and it may be doubted possibly whether Dr. Ridge, and those who go with him, are wholly correct in the inferences they draw from the facts of physio-chemistry they so frequently quote. We are, notwithstanding, glad to see the clear and admirably suggestive address of Dr. R. in the form we have received it, and feel sure that its wide-spread perusal will be of service.—*Medical Press and Circular*.

MENTHOL.—This new antiseptic and antineuralgic is stearoptene of peppermint oil, or menthol, a crystalline solid derived from the oil of the *mentha piperita*. It is not soluble in water, but dissolves readily in alcohol, ether or glycerin. A one-to-twenty solution may be obtained by adding one grain of menthol to six minims of alcohol with fourteen minims of water. Its antiseptic action resembles that of thymol; in the strength of one to five hundred it will prevent the development of bacteria and kill those already in existence. Its antineuralgic action is obtained by painting it in solution (one grain of menthol in ten minims of alcohol) over the painful point. The author (McDonald) considers that menthol is the active antiseptic and antineuralgic principle of oil of peppermint.—*New York Medical Journal*.

CHARCOAL IN INFANTILE DIARRHEA.—M. Jules Guerin recommends charcoal in the treatment of infantile diarrhea. The affinity, he says, he sought to establish between the chololeriform diarrhea of children and adults, led him to apply to the children the same treatment he had used so successfully with adults. M. Guerin orders the charcoal (wood) to be put into the feeding-bottle, half a teaspoonful suffices at the time, and where the child takes the breast, in a little milk, sweetened—a teaspoonful to be given frequently during the day. After the first day the evacuations change in consistence and odor, from green

they become a blackish yellow. From this treatment, M. Guerin has seen children who were wasted by seven or eight days' obstinate diarrhea recover their usual healthy expression in three days.—*Medical Press and Circular*.

TREATMENT OF SUB-INVOLUTION OF THE UTERUS.—Dr. Braithwaite has had excellent results from a plan first made known to him by Dr. Wynn Williams. A delicate whalebone applicator, armed with cotton, is dipped into a mixture of equal parts of iodine, iodide of potassium, and alcohol, and carried up to the fundus, where it is allowed to remain for a few moments. The introduction is facilitated by passing a sound beforehand. Strong muscular contraction at once occurs, unless there is endometritis, in which case the affection of the endometrium should first be subdued by the use of ordinary tincture of iodine or carbolic acid. This strong solution of iodine seldom has to be applied more than three or four times, as it causes a speedy reduction of the size of the uterus. *Ob. Jour. Gr. Brit. and Ire.—N. Y. Med. Journal*.

HOW TO COVER THE ODOR OF IODOFORM.—Several methods have been proposed, the following of which, according to *New Remedies*, are the best. 1. Tannin mixed with the iodoform in equal parts. 2. Oil of peppermint in the proportion of a drop to every drachm. 3. Lavender water and eau de cologne have been recommended, but are not as effectual as the peppermint. 4. Balsam of Peru, 3 parts; iodoform, 1 part; vaseline, 8 parts; or, in place of the latter, alcohol, collodion, or even glycerin. 5. Oil of sweet almonds added in equal quantity to the iodoform. 6. Oil of bitter almonds. One or other of the first two methods is probably to be preferred.—*British Medical Journal*, Vol. II., 1880, p, 692.

RESTORING THE HEART'S ACTION.—Dr. J. C. Reid, *Brit Med. Journal*, relates a vivisection experiment of his college days. He had killed a mouse by a blow upon the head, and opened the thorax in order to see the heart beat. It did not beat until he pricked it with a needle and set it agoing. A second prick temporarily revived the pulsations when they ceased. He also cites two cases, one occurring in his own practice and one in his father's, in which the heart's action had ceased entirely, and the patients were thought to be dead, but the action of the

heart was restored by means of a douche of hot water, a stream being allowed to fall upon the præcordium from a height of several feet.

BOOK NOTICES.

ON THE ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASES. Being the Cartwright Lectures for the year 1880. By Roberts Bartholow, M.A., M.D., LL.D., Professor in Jefferson Medical College. 8vo. Pp. 122. New York: D. Appleton & Co. Cincinnati: Robert Clarke & Co. Price \$1.25.

The author of this work will be recognized to be a former townsman of Cincinnati, the fame of whose learning, extending far and wide, took him from our midst to a distant city.

The antagonism between medicines is a subject to which we know that Prof. Bartholow has given much attention, having experimented very much. As is stated in the preface, except the prize essay of Dr. Fothergill, the extensive literature of this subject is scattered widely in papers of the medical periodicals of the world. The author has collected in his work all the contributions to the subject, and has brought forward his own work in the field.

The work is one of the highest interest, the subjects being treated in a very intelligent and interesting manner. There are some six lectures, in which are treated the antagonism of opium and belladonna, atropia and physostigma, and other drugs with atropia; chloral and strychnia, opium and veratrum viride, morphia and theine and chloroform, aconite and digitalis, strychnia and nitrite of amyle, and forty or fifty other antagonisms.

The antagonism of opium and belladonna is discussed at very considerable length. On page 31 the author speaks as follows: "A review of the fatal cases of opium or belladonna poisoning, in which the antagonist was the principal means of treatment, lessens their importance as negative testimony. The maximum and minimum toxic doses proving fatal are equaled by the doses recovered from. Hence it may be assumed that, if the results are not fortunate in any case, we have a right to conclude that one of three propositions is true: that the toxic dose was excessive; that it had been acting so long that the tissues

could no more react to the antagonist; or, that the antagonism was defeated by the failure of some vital organ."

The very large amount of information contained in the work, on a very interesting subject, makes it very readable indeed, and not only so, but very valuable.

HYDROPHOBIA. By Horatio R. Bigelow, M.D. 12mo. Pp. 154. Philadelphia: D. G. Brinton.

This work, as we learn from its advertisement, is not only designed for the physician, but for the veterinarian and the general reader. From our examination of it, it seems to contain a large amount of valuable information in regard to the disease of which it treats—one of the most terrible of all diseases. In fact, it seems to be a very good digest of all the facts known on the subject.

The author speaks of hydrophobia as amenable to treatment. We, however, have always regarded it as necessarily fatal, and have always supposed that that was the opinion of the profession. In evidence that patients have recovered, he quotes Dr. Dolan, Dr. Offenbergl, and Dr. Austin Flint. He mentions *curara* as a remedy that will probably be found efficacious; and states that two physicians of Russia—Drs. Schmidt and Zebeden—had most undoubtedly cured a case with oxygen gas.

We will state here that we once saw a case of rabies, with a number of other physicians, in which the imagination or terror seemed to have much to do in bringing on the symptoms.

The work is well worth reading.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M. D., London, F. R. C. P., Physician to Charing Cross Hospital, etc. Fourth American from the Fifth Revised and English Edition. With 138 fine Engravings. 8vo. Pp. 347, Philadelphia: Henry C. Lea's Son & Co. Cincinnati: Peter G. Thompson.

We have noticed this excellent work on pathology a number of times. Having gone through more editions, in a short time, than any other work with which we are acquainted on the same subject, we are disposed to regard it as the most popular work extant of its kind. And we are not at all astonished at the favorable reception

accorded it by the profession, when we come to note how well adapted it is to the wants of both physicians and students. While it is of comparatively small size, yet it contains a large amount of valuable information, enough to fully elucidate the changes effected by disease for a practitioner to have a very correct notion of morbid action.

In preparing this edition the author has added much new matter, with the object of making the work a more complete guide for the student. All the chapters have been carefully revised, some alterations made in the arrangement of the work, and an addition has been made to the number of wood-cuts. With the improvements that have been made the work will undoubtedly be more acceptable than ever.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM, ESPECIALLY IN WOMEN. With Five Plates. By S. Weir Mitchell, M. D., Physician to Infirmary for Diseases of the Nervous System, etc. 12mo. Pp. 238. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: R. Clarke & Co.

In this work we have treated quite a number of nervous affections, which, although they are frequently met with in practice, are not usually described in text-books. Physicians are very often consulted by patients suffering with nervous affections, as are indicated by the symptoms, but they are not able to obtain any information in regard to these from any work they may have on their library shelves. In the work of Dr. Mitchell many such disorders will be found described, with an account of the best mode of treatment.

In the thirteen lectures are treated, among other affections, the paralyzes of hysteria; hysterical motor ataxia, new forms of hysterical ataxia, forms of paresis; mimicry of disease—two lengthy and interesting lectures; unusual forms of spasmodic affections in women—rotatory spasms, functional spasms, hysterical athetosis; tremor, chronic spasm; chorea of childhood, forms of chorea, habit chorea; disorders of sleep in nervous or hysterical persons; vasomotor and respiratory disorders in the nervous or hysterical; hysterical aphonia; gastrointestinal disorders of hysteria, hysterical anorexia, difficulty of feeding hysterical women, defecation in hysteria; the treatment of ob

stinate cases of nervous exhaustion and hysteria by seclusion, rest, massage, electricity, and full feeding; uterine disease, ovarian disorders.

Some of the most interesting reports of nervous affections we have ever read are related in this work. If we had space to spare we know we would interest our readers by copying many pages of the work.

EATING TO LIVE. THE DIET CURE. An essay on the Relations of Food and Drink to Health, Disease and Cure. By T. L. Nichols, M.D. 12mo. Pp. 88. New York: M. L. Holbrook & Co.

This is certainly a very useful little work, containing in a small compass a large amount of valuable knowledge which is well worth studying and treasuring up. Although intended largely for popular use, many physicians will be able to gather many hints in regard to diet that they did not know before.

It proposes to show how many diseases may be cured by diet alone. That that alone will often be found an efficient remedy, we have not the slightest doubt.

PROCEEDINGS OF SOCIETIES.

The American Medical Association.

THE *American Medical Association* held its thirty-second annual session, on the 3d of the present month, in the city of Richmond, Va. It was called to order at 11 o'clock A. M., by Dr. Frank Cunningham, Chairman of the local Committee of Arrangements. Prayer followed by the Rt. Rev. Bishop J. J. Keane. Gov. F. W. M. Holliday delivered the address of welcome. At noon, Dr. J. T. Hodgen, of St. Louis, the President, delivered his annual address. From reports, the address seems to have been largely devoted to the progress of surgery. He divided surgeons into two classes—in one class the surgeon is disposed to operate whenever the opportunity is offered; he is disposed to prefer that method of relief to any other. In the other class the surgeon makes an operation a dernier resort; he only operates when no other mode of relief is to be had. We quote a paragraph: "The local

conditions calling for surgical operations are, besides, more easily studied by the young surgeons than the general conditions, which may forbid them, and are more fully discussed in the text-books and college lectures. To learn what to do and how to do it is always more attractive to the student than to be told what not to do. And this is especially true if the thing not to be done is something which he believes he can do well." In treating the malignant affections the speaker said that in rodant cancer and in epithelioma we now expect a cure by excision, provided it is done early enough; and even in mammary scirrhus, removal of the breast has exceptionally effected a permanent cure. In speaking of tolerance of surgical operations he states that, "Scarcely any fact is better established than that a high condition of health is not the condition which *best* fits the patient to bear the forced confinement, the impaired digestion, the imperfect assimilation and the perverted excretion which follow any serious bodily injury or grave surgical operation. In such patients we have learned to dread surgical fever and active inflammatory complications, leading possibly to septicemix, and ending, may be, in death."

On the second day was offered an amendment to the

CODE OF ETHICS.

The amendment provides that it is derogatory to the interests of the public and honor of the profession for any physician or teacher to aid, in any way, the medical teaching or graduation of persons, knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine.

Dr. Edward S. Dunster, Professor in the University of Michigan, made a long speech in opposition to the amendment, on the ground that it is contradictory to the letter, in many places, and also to the general spirit, of the code as it now stands; that it is illogical, and, in its reasoning, discreditable to the scholarship of the Association; that it is now, and must, of necessity, always be inoperative, not only as a matter of every-day practice, but also by reason of certain well-defined legal limitations, in which the Association is without jurisdiction; that it is based upon a fallacious assumption, to wit: that teaching truth and science tends to build up and strengthen irregular and exclusive systems of medicine; that to establish the

principles embodied in the amendment, that truth in medicine must not be taught to unbelievers, would prevent the teaching of truth in any department of human learning to skeptics and unbelievers; that the experiences of history are clear and convincing, that error, slowly, it may be, but surely, disappears before the promulgation of truth; that it is a part of the old-time policy of intolerance and persecution, whose only effect will be to build up and strengthen sectarian medicine; and finally, that, by the proposed course, we lay ourselves open to the charge of a want of faith in our own system, and confess our inability to compete with a school of medicine which we believe, both in theory and practice, to be largely based on error, or at all events, to state it as mildly as possible, on a misconception of the truth.

The further consideration of the subject was postponed, and made the special order for next day.

Among other papers read there was one by Dr. Pepper, of Philadelphia. He devoted himself to the consideration of the great importance of local lesions, and especially catarrhal inflammation of mucous membranes, as forming the essential cause of many apparently obscure diseases, and also as adding greatly to the danger of many diseases which are now regarded as due exclusively to the presence of some specific poison in the blood. He dwelt on the present tendency, which he thought exaggerated, to assume the existence of blood poisoning, and on the injury that is apt to result in practice, from regarding disease in so many instances as a special self-limited process, pursuing a definite course and practically uninfluenced by remedies. This theory will lead to dependence on a merely supporting and inactive treatment, and to the neglect of that minuteness in looking for and treating local affections that is so essential to the highest practical success. He illustrated this especially by reference to typhoid fever, dysentery, and rheumatism. Allusion was also made to the importance of seeking for remedies possessing special antidotal powers against the great epidemic and contagious diseases, such as diphtheria and the eruptive fevers. In a few instances such specific remedies have been discovered, and allusion was made to the remarkable results that have recently been observed in the treatment of grave cases of diphtheria by the use of large doses of bichloride of mercury given in a special

method. Without accepting these results as conclusive, they must be regarded as most encouraging.

The Doctor then discussed the large part played by chronic irritation of the mucous membranes in the production of nervous disturbances and the impairment of vital power. Ample illustration may be drawn from dyspepsia, and from intestinal irritation. And again, as to the part played by such chronic irritations in keeping up a peculiar obstinate fever, which resists all treatment until the local trouble is removed; such cases are not rarely mistaken for malarial fever, and the excessive use of quinine in such cases is not rarely irritating and mischievous; and finally, such local catarrhs may produce morbid accumulations that may undergo changes and infect the system with the most fatal poisons. The most frequent and important instances of this are found in the development of pulmonary consumption from neglected or imperfectly cured catarrhal affections of the lungs. An attempt has been made to show that pulmonary consumption is a self-limited disease, whereas, in truth, if placed under suitable treatment, hygienic and medicinal, at an early stage, it can be largely controlled in very many instances. The address closed with a renewed assertion of the excess to which the modern theories of specific poisons have been carried, and with the expression of the hope that ere long a system of medical thought and teaching will be devolved, more truly practical, national and American, and less under the influence of speculative views that do not accord with the requirements of our medical practice or the results of our clinical observations.

The Committee on Nominations reported the following: For President, J. J. Woodward, U. S. Army; 1st Vice-President, I. P. O. Hooper, of Arkansas; 2d, Vice-President, Laertes Connor, of Michigan; 3d Vice-President, Eugene Chisholm, of North Carolina; 4th Vice-President, Hunter McGuire, of Richmond; Secretaries, Wm. B. Atkinson, of Philadelphia; R. J. Dunglison, of Philadelphia; Librarian, Wm. Lee, of Washington; Chairman of Committee of Arrangements, Dr. Stone.

St. Paul, Minn., was selected as the next place of meeting.

Dr. John Packard, of Philadelphia, presented the report of the Committee on Journalizing Transactions. The

report closed with the recommendation that a committee of five be appointed, whose duty it shall be to digest and report in detail, as early as possible, a plan for the publication of a weekly journal by the Association, the nomination of an editor, his salary, and the time and place of publication of such journal. The resolution was so amended as to leave out the nomination of an editor; the committee was increased to seven, and the resolution was adopted.

On the third day there came up for discussion

THE ETHICAL AMENDMENT.

Dr. Billings, of the U. S. Army, of Washington, submitted the following as a substitute for the amendment to the Code of Ethics, which was under discussion Thursday: "It is not in accordance with the interests of the public or the honor of the profession, that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with the graduation of, persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine."

Dr. Billings, in offering the paper, said: "This amendment has been prepared after consultation with the representatives of the various views which have been presented here, and it is believed to embody the prevailing opinion of the Association. It places no restriction upon teaching or upon the diffusion of knowledge, while it affirms the principle that we will not indorse in any way, or recommend to the public, men who limit their practice to one special dogma, or who deliberately class themselves with the villifiers of and sneerers at regular medicine for the sake of notoriety." The substitute, under the call of the previous question, was adopted.

USE OF PATENT REMEDIES.

The following resolution, after some discussion, was referred to the Judicial Committee, to report at the next meeting:

Resolved, That the spirit of the Code of Ethics forbids a physician prescribing a remedy controlled by a patent, copyright or trademark. This, however, shall except a patent upon a process of manufacture or upon the machinery for the manufacture. *Provided*, the patent be not used to prevent legitimate competition, and shall

also except the use of a trademark used to designate a brand of manufacture. *Provided*, That the article so marked be accompanied by working formula, duly sworn to, and also by a technical name, under which any one can compete in the manufacture of the same.

The various sections held their meetings, as they usually do, and the scientific papers read before them were able and interesting. Of course, no journal could give a mere outline of all the papers and the discussions held upon them. It was suggested, and a committee appointed to consider it, to establish a journal of the Association devoted to its interests.

Dr. Goodwillis, of New York City, before the section on diseases of children, read a paper entitled, "Thumb Sucking," illustrated by the report of a case and exhibited by a wax model.

Treatment consisted in breaking up the habit by applying a leather pad to the elbow, preventing the hand from coming to the mouth.

Nasal Catarrh by douches and the application of powder blown into the nose, proper food, clothing and rest.

His conclusions were as follows:

1st. Thumb-sucking is more disastrous to the health of the child than the sucking of the other fingers, for the thumb, once in the mouth, it more readily remains during sleep.

2d. It interferes with the child's proper rest, which should be continuous and undisturbed, and so becomes a source of nervous irritation and exhaustion.

3d. It interferes with the natural respiration through the nose, and sets up abnormal conditions.

4th. It malforms the anterior part of the mouth, and affects proper mastication.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Resume of Rules for the use of Pessaries.—Dr. Paul F. Munde, of New York, made a brief recapitulation of the rules governing the introduction and supervision of vaginal pessaries (including vagino-abdominal).

1. Always be sure of the diagnosis of the nature and degree of the displacement before resorting to a pessary.

2. Always replace the uterus before applying a pessary. This applies particularly to retro displacements. It is well to replace the uterus repeatedly, every day or twice daily,

for several days before introducing a pessary. The replaced organ may be supported by cotton tampon in the interval, if it is desired to distend and toughen the vaginal pouch; or the object of relaxing the abnormally stretched uterine ligaments may have been obtained by the mere repeated replacement. In flexions, chiefly ante-flexions, the frequent straightening of the uterus or conversion into the opposite flexion by the sound, will often prove beneficial before introducing a pessary.

3. Never insert a pessary when there is evidence, by the touch, of acute or recent inflammation of the uterus or adnexa, or when pressure by the finger on the parametrium (where the pessary is to rest) gives decided pain.

4. When the uterus is not replaceable, that is, when adhesion binds the fundus down, use great caution and discrimination in deciding whether an attempt should be made, and is justified by the symptoms, to elevate the fundus by manual or instrumental means, or whether the elevation should first be tried by the gradual elevation of a pessary (this applies only to retro and latero-versions). If neither is to be recommended, do not introduce a pessary until local alterative and absorbent measures have effected a resolution of the adhesions.

5. Always choose an indestructible instrument, if possible. This does not apply to prolapsus uteri.

6. Always measure and estimate the vagina carefully before choosing a pessary, and be careful to adjust the pessary in every particular (size, curve, width) to that particular case. No two vaginæ are exactly alike.

7. If the vaginal pouch is not sufficiently deep to accommodate a pessary (anterior pouch for ante-displacements; posterior pouch for retro-displacements), defer the attempt to fit a pessary until the pouch has been deepened by daily tamponing with cotton, or by the upward pressure of a cutter or Thomas' vagino-abdominal supporter. Or the pouch may be gradually deepened by using first a small (slightly curved in retro-displacement) instrument, and gradually increasing its size (or curve) until the desired size and shape for permanency is reached.

8. Never leave a pessary in the vagina which puts the vaginal walls to the stretch, and which does not permit the passage of a finger between it and the walls of the vagina. This does not apply to prolapsus uteri.

9. A vaginal pessary which projects from the vulva is displaced.

10. A pessary which gives pain must at once be replaced by one which is painless.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

CICERO VS. CÆSAR.—Two new works have recently been published, one the life of Cicero, by Anthony Trollope, and the other the life of Cæsar, by James Anthony Froude. It is singular how these two eminent writers of the nineteenth century differ in their judgments of the two great Roman contemporaries, who flourished but a short period before the Christian era. Both Messrs. Trollope and Froude have each the same knowledge of the two heroes of antiquity. To both were open the same sources of information—the writings of the men themselves, the accounts of those who lived at the same time, and the biographies of writers who came after them during the two hundred or two hundred and fifty years that elapsed

after their decease,* and who had access to works that have not come down to us. Thus possessed of precisely the same information, one not having had any advantage over the other in learning facts, but the sources of all the facts in regard to the two men having been thoroughly investigated by both, as their books prove, yet the conclusions drawn are as opposite as they can well be, not to be entirely so. Such phenomena as these, for they really are entitled to be styled phenomena, are by no means uncommon, but have never yet been explained. Certainly, we think, they are worthy the profound study of the psychologist. Their ultimate causes must lie in the brain—in the various conditions of the nervous system. Whatever portions of the cerebral matter that is involved in the emotive functions, the feelings, and in giving assent of the judgment to those of a certain kind and dissent to opposite ones, such portions of it must be studied in order to explain such phenomena. Mr. Trollope, from his standpoint of an eminent writer of the nineteenth century, regards his hero, Cicero, as a man of the noblest genius, of the widest learning, of unsurpassing power as an orator, and a most profound philosopher. In his moral character he seems to regard him as near spotless as a human being could be expected to be, living in the fearfully perilous times of Cicero, when all things at Rome were venal (see Sallust's *Cataline*) and terrible conspiracies like that of *Cataline* were happening, and in which occurred the great revolution which Cæsar incited, and which almost equally divided the whole nation, compelling every one, from the highest to the lowest, to take sides. The most perfect man is necessarily more or less frail. He can foresee the future only as aided by experience and observation he can deduce from the past. Besides, his emotive functions are constantly battling with his judgment, and interfering with its conclusions; and these emotive functions or feelings have derived their character from the physical conformation of the individual, which has descended by inheritance, and are not subjects of the will. The humanity of man, therefore, being human, errors, mistakes and shortcoming, are inheritances, and make it impossible for him to be infallible.

In the introduction to *Cicero's* life, Mr. Trollope says of

*Dio Cassius wrote more than two hundred and fifty years after Cæsar and Cicero had passed from the stage of life.

him that he was "the most fit to be loved of all the Romans." In another place, he says: "With the man of whom we are about to speak conscience was strong. . . . We shall see him, if we look well into his doings, struggling to find whether, in searching for what was his duty, he should go to this side or to that. . . . We see the workings of his conscience, and, as we remember that Scipio's dream of his, we feel sure that he had, in truth, within him a recognition of a future life." In another place, the biographer of the great Roman orator and statesman, says: "No man ever trusted more entirely to popular opinion than Cicero, or was more anxious for aristocratic authority. But neither in one direction nor the other did he look for personal aggrandizement, beyond that which might come to him in accordance with the law, and in subjection to the old form of government. It is because he was, in truth, patriotic, because his dreams of a Republic were noble dreams, because he was intent on doing good in public affairs, because he was anxious for the honor of Rome and of Romans, not because he was or was not a 'real power in the State,' that his memory is still worth recording. Added to this was the intellect and the wit and the erudition of the man, which were at any rate supreme. . . . His hands were clean when the hands of all around him were defiled by greed. How infinitely Cicero must have risen above his time when he could have clean hands! . . . Even with us this and that abomination becomes allowable because so many do it. With the Romans, in the time of Cicero, greed, feeding itself on usury, rapine and dishonesty, was so fully the recognized condition of life, that its indulgence entailed no disgrace. But Cicero, with eyes within him which saw farther than the eyes of other men, perceived the baseness of the stain."

But it is not necessary for us to quote further from Mr. Trollope to show how exalted is his opinion of Cicero's moral character. As an orator, statesman and man of learning, he regarded him as having no equal in his time, and but few at the present time. He speaks of him as the founder of the Latin language.

It should not be concluded, from our quotations, that Mr. Trollope considers Cicero perfect by any means, or as near perfect as his humanity permitted him to be. On the contrary, he speaks of him as possessing not a few

faults, from too great ambition and from vacillation of character.

But now let us turn to Mr. Froude, an Englishman as well as Mr. Trollope, who has recently written a life of C. Julius Cæsar. As we have stated, his information in regard to Cicero was precisely the same as that of Mr. Trollope. The biography of each shows that they both studied the facts, obtained from the same sources; and these sources were writings which necessarily give their details in the same way, and which can be read and studied at leisure. In the case of individual testimony, although it might be the same persons in each instance relating the same facts, yet it would be easy to imagine that, not employing the same language every time, different ideas or impressions were conveyed to different persons, or they were not as fully understood by one hearer as by another. It would be impossible to understand, if we regard mind as an entity and not as a force resulting from physical conditions, how that the same facts obtained from the same sources, and told in the same language, should produce almost diametrically opposite conclusions in the case of two individuals, contemporaries of one another, of the same country, and learned by them two thousand years after the facts had transpired. The physiologist, who studies mental phenomena from a physiological standpoint, may be able to solve the question and make it plain. It can never be done by the metaphysician. It becomes more and more evident every day that metaphysics, as it is termed, or the questions supposed to belong to it, must be relegated to physiology for solution—that to physiology belongs the study of all mental phenomena.

Says Mr. Froude of Cicero: "In Cicero nature half made a great man and left him uncompleted. Our characters are written in our forms, and the bust of Cicero is the key to his history. The brow is broad and strong, the nose large, the lips tightly compressed, the features lean and keen from restless intellectual energy. The loose, bending figure, the neck, too weak for the weight of the head, explain the infirmity of will, the passion, the cunning, the vanity, the absence of manliness and veracity. He was born into an age of violence with which he was too feeble to contend." Again, in speaking of some of the habits of Cæsar, Mr. Froude says, "He never dilated

on the beauties of virtue, or complimented, as Cicero did, a Providence in which he did not believe." On another page, speaking of Cicero, he says that his natural place was at Cæsar's side, "but in Cæsar he was conscious of a higher presence, and he rebelled against the humiliating acknowledgment."

But it is not necessary to expend more space in quoting from Mr. Froude to show that from precisely the same evidence in regard to the character of Cicero, he has concluded that he was hypocritical, untruthful, unsteady of purpose, selfish, malignant, vain and dishonest—greatly inferior in moral worth and talents to Cæsar and other contemporaries, while, on the contrary, Mr. Trollope regards him as an embodiment of the highest virtues and the greatest learning, unsurpassed as a statesman and in his devotion to his country. He speaks in the most complimentary terms of his steady purpose, unselfish conduct towards friends, and his eagerness to be always on the side of the right.

Our object, as we have stated, in thus speaking of the biographies of Messrs. Trollope and Froude, is to draw the attention to some curious mental phenomena which these works illustrate, and not at all for the purpose of entering into the merits of their differences of opinion in regard to the character of Cicero, but before parting with the subject, we can not help but say a word in vindication of a writer whose works have afforded us so much pleasure in their perusal as those of Cicero, when he seems to be traduced. The writings of Cicero form a philosophy which, in the beauty and purity of its sentiments and high tone of its morality, would almost impress us as having been obtained directly from the Christian Bible if it was not that it was written before the latter. We select at random a passage from "*De Finibus*," Cap. XXII., Sec. 62: "Who is so unlike a man as not to be moved by a contempt for what is base, and by a love for what is honorable?" 63. "There is no one who does not approve and commend such a condition of mind, in which not only no advantage is sought, but faith is preserved in opposition to advantage." In *De Officiis*, Lib. 1, Cap. XLI., we find written: "Now it is our duty to esteem and to honor, in the same manner as if they were dignified with titles or vested with command, those men whose lives have been conspicuous for great and glorious ac-

tions, who feel rightly toward the State, and deserve well or have deserved well of their country." In the same book of the *De Officiis* Cicero says: "It is the peculiar duty of a magistrate to bear in mind that he represents the State, and that he ought, therefore, to maintain its dignity, to preserve its constitution, to act by its laws, and to remember that these things are committed to his fidelity. As to a private man and citizen, his duty is to live upon a just and equal footing with his fellow-citizens, neither subordinate nor subservient nor domineering; and, as regards the commonwealth, to labor for tranquillity and virtue. Such a one we are accustomed to consider and esteem a good citizen."

If we had the space, and it was necessary to make further selections from the works of Cicero to exhibit the high moral character of his sentiments, we could fill many pages with extracts from his works teaching a morality second only to the Bible. But what we have given at random is enough. It is certainly strange how that Mr. Froude should think such a man dishonest, hypocritical, etc., and should regard Cæsar as greatly his superior in every quality that goes to make up a great man.

Mr. Trollope, while he is unstinted in his praises of Cicero, considers Cæsar quite destitute of all the higher moral qualities. A great general, but a great scoundrel—a traitor to his country, ready to sacrifice anything to his ambition. Which of the two men is correct in his judgment? or is the question one which can not be settled by their fellowmen—those of similar mental endowments with Mr. Trollope agreeing with him, and those of similar feelings with Mr. Froude agreeing with him? We presume that the difference in judgment has its cause in the feeling, or emotive functions. If there were none of these, probably men would be more apt to think alike.

" EUCALYPTUS GLOBULUS.—Those of our subscribers who have not made use of this comparatively new remedy should do so. In the last two or three years we have published quite a number of articles mentioning its therapeutical properties. We have thought, however, we would draw attention to it editorially, and invite our readers to try it, and report to us their experience.

The editor of the St. Louis *Clinical Record* thus speaks of it:

"This so-called extract is an essential oil distilled from the leaves of the *Eucalyptus globulus*, has a pleasant, ethereal, camphoraceous odor, and is exceedingly volatile. We have used it, personally, and find that, in a troublesome headache, following loss of sleep, inhalation of a few drops gave prompt relief. It appears to be an excellent disinfectant and deodorizer. We have the promise of an article on its therapeutic and disinfectant properties from the pen of our distinguished contributor, Prof. Louis Bauer, M. D., which will appear in our next number. Dr. B. is making extensive tests of its properties, and so far, we understand, he is greatly pleased with it."

Dr. Louis Bauer, the well-known orthopedist, Professor of Surgery in the St. Louis College of Physicians and Surgeons, thus describes his experience with the remedy:

"My attention has been directed to the therapeutical virtue of leaves of *Eucalyptus globosa* by numerous articles which have appeared during the last two years in the medical journals of Germany. Among them appeared a paper from Prof. Mosler, of the University of Greifswalde, in commendation of the new remedy. As a clinical teacher, as an acute observer, and as a conscientious writer, Prof. Mosler has no superior. It is because of the weight of such indorsements that I have resolved to enter upon a series of experimental investigations to satisfy my own mind as to the efficacy of 'Eucalyptol,' so termed by Prof. Mosler. Another inducement was the fact that the essential oil of eucalyptus leaves is comparatively unknown and unappreciated in the United States; at any rate, I have not found in the literature of the day any but passing reference to it.

"One of the first cases in which Prof. Mosler successfully employed this agent was that of echinococcus of the lungs, with bronchial affections, and this result opened the way to its further usefulness in the treatment of diphtheria. Its services in this respect may be learned from the inaugural dissertation of Dr. Salenz, one of Mosler's pupils and clinical assistants. The results attained in some most aggravated cases of this destructive disease are indeed astonishing, and since there can be no doubt as to the trustworthiness of the record, it would seem that 'eucalyptol' is one of the most acceptable additions to the *materia medica*. When employed it should be used dissolved in alcohol in the form of spray (atomized

or pulverized). [Local application of the pure eucalyptol, by means of a camel-hair brush, is to be preferred.—S. & S.]

"Next, the eucalyptol has been found serviceable in headaches of various characters, including the malarial form. And it is, perhaps, on account of the fact that it has been tried in the treatment of intermittent fever. Some writers praise it as equally reliable as quinine. Further experiments will show whether this observation is trustworthy. In headaches it is employed by inhalation, and also in doses of two or three drops, on sugar, by the mouth.

"Whether or not it may prove a formidable competitor of carbolic acid in the external treatment of wounds, for which it is held in the highest esteem by some writers will be decided by systematic experiments.

"Without going any deeper into the matter on this occasion, it will be readily seen that the eucalyptol deserves the fullest attention of the American profession, and that, for one, I am resolved to put this remedy to a systematic and thorough test."

WHO WROTE IT?—We have received through the post-office, in pamphlet form, a paper recently read to the "Mitchell District Medical Society," of Indiana, on "Antiseptics in the Treatment of Certain Forms of Bone Diseases, especially Necrosis and Its Consequences." We are somewhat curious to know who wrote the paper, or, rather, who is the author of it. That the individual wrote it whose name is on the title page, there is no evidence from the fact that it is stated he is the author, for this same person unblushingly read a paper before the Ohio State Medical Society as his own, of which he had not written a word. It was on "Hydrate of Chloral," and Dr. M. L. Amick, of this city, wrote every word. This we know from his own acknowledgment and the statement of Dr. Amick.

The ostensible author says, in the preface, that but thirty-six hours intervened from the time the request was conveyed to him to read the paper until he was compelled to take the cars for the place where the society met. Of course, in these thirty-six hours he had, besides to write the paper, to eat, sleep, and attend to professional business. This, with most individuals, would be a

brief period to do all these things, if there was included in the writing out of the paper the putting into words the thoughts of the mind, but if there was involved only the copying of a paper into one's own handwriting, after it had first been written out by some one other person, the time mentioned would be quite ample. We think we could copy it in the course of a couple of hours. We have no doubt whatever that all which, the person mentioned on the title page had to do with the preparation of the paper, was to copy it in his own handwriting. Besides the fact of having the paper on "Hydrate Chloral" written for him, which he read and had printed as his own, we could mention other reasons, if necessary, to prove that he was not the author of the antiseptic paper.

MEDICAL ASSOCIATION OF GEORGIA.—The thirty-second annual session of the Medical Association of Georgia was held in Thomasville, on April 20 and 21, 1881. The following are the officers for the ensuing year: President, Wm. F. Holt, Macon; First Vice-President, Eugene Foster, Augusta; Second Vice-President, T. M. McIntosh, Thomasville; Secretary, A. Sibley Campbell, Augusta; Treasurer, K. P. Moore, Forsyth. The next session will be held in Atlanta, on the third Wednesday in April (19th), 1882. Communications should be addressed to A. Sibley Campbell, Secretary.

A NEW MEDICAL JOURNAL.—A new medical journal, of which we have received the first number, entitled the "*Sanitary News*," makes its appearance from Hamilton, O. The editors are our friends R. C. S. Reed, M. D., and C. L. R. Reed, M. D. It is a thirty-two-page journal, and has a very neat and tasteful appearance. It is devoted to the promulgation of sanitary science, public and domestic hygiene, sewerage, education reform, prison reform, and all subjects that tend to prevent disease and promote health. The number we have seen contains a number of original communications of merit. The new enterprise has our best wishes for its success.

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ORIGINAL CONTRIBUTIONS.

Some Points in the Consideration of Puerperal Septicæmia.

BY WM. H. PARISH, M. D., PHILADELPHIA.

(Read Before the Pennsylvania State Medical Society.)

I PREFER the term "Puerperal Septicæmia" to "Puerperal Fever." It has a number of advantages. A diagnosis of puerperal fever is liable to seriously alarm the patient, and also such pregnant women as may learn of the patient's illness. The term puerperal fever carries with it no indication as to the origin and nature of the disease, unless it be the erroneous one of being a peculiar specific fever. The term, too, is employed with varying meaning by different authorities, some extending its application to all conditions, non-infectious as well as infectious, following labor, and attended with elevated temperature.

Puerperal septicæmia is less open to these objections, and has the great advantage of carrying with it the teaching that the disease is not dependent upon a peculiar poison, but has its origin in the entrance into the system of septic poison, derived at different times from a great variety of sources.

The truth of this teaching can not now, it seems to me, be denied. Numerous experiments on the lower animals have demonstrated the fact that a septic fluid, injected into the genitals after delivery, will produce the same symptoms and the same lesions which result in a puerperal woman by reason of retention, decomposition and absorption of portions of the products of conception. The disease

produced in the lower animal experimented on and that in the woman are identical. In each it is septicæmia. If from such a patient the physician or the nurse in immediate attendance goes to another parturient woman, and this second patient is seized with similar symptoms and dies presenting similar lesions, is not the proof equal almost to that of actual experimentation that a third party has conveyed a *materiæ morbi* from a septicæmic patient to one previously healthy, and has established in her septicæmia? And if, in the experience of such physician or nurse, a number of puerperal women are thus similarly attacked in rapid succession, have we not an endemic of so-called puerperal fever, and is there any process of reasoning by which we can ascribe these cases to a specific poison? Was it not septicæmia in the first case? and is it not septicæmia in each succeeding case? I think that I have met with such a series of cases in the Philadelphia Hospital, presenting such a sequence of cause and effect.

It is claimed that there are differences in the symptoms presented by a patient suffering with blood-poisoning from absorption of septic fluid derived from decomposed placenta, etc., and cases of endemic puerperal fever.

The differences are readily explained by the differences in the malignant activity of the poison, and in the manner of its entrance into the system. It is a clinical fact that endemics of puerperal fever vary in intensity and in malignancy, and also that the earlier cases are less malignant than the successive ones, the activity of the poison increasing with successive cases unless combated by proper measures. This behavior on the part of the poison is in exact accord with actual experimentation with septic fluid on the lower animals. Thirty drops of a septic fluid were required to produce poisoning in the first animal; as the poison was transferred from the genitals of one animal to those of another in successive experimentation, the activity of the poison increased rapidly, until the smallest fraction of a drop would cause the most intense poisoning.

In retained placenta the process of poisoning is gradual and progressive, because of the continuous absorption of a poison as yet comparatively feeble in its activity; hence the symptoms appear gradually and progressively.

In endemics the patient receives at the confinement the poison already possessed of extreme activity; hence the

symptoms of poisoning appear early, are of great severity, and a fatal result may quickly occur. In the patient with retained and decomposing placenta there must be time for decomposition to develop the poison; at the expiration of this time nature has placed at least partial obstruction in the way of absorption, so that this process is slow. Moreover, the poison has not gained its highest activity, because it has not had opportunity to pass through the congenial system of a puerperal patient. For these reasons the symptoms appear later, are more insidious, and a fatal result is longer delayed.

But it has been said, who has heard of septicæmia following a surgeon from patient to patient as puerperal fever tracks the obstetrician at times? The surgeon never meets with a patient presenting conditions systemic or local analogous to that of the puerperal woman. The functional disturbances, the blood alterations, the susceptibility and impressibility, the incapacity for resisting the encroachments of disease, are under no other circumstances so marked as in the puerperal woman. In her the ravages of disease meet with but little resistance; they are even intensified, as note malaria, scarlatina, typhus and small-pox.

The placental site of the post-partum uterus has been compared to the surface of a flap in an amputation. The comparison is a feeble one. The absorbents are peculiarly active in a uterus after labor. Absorption is the active physiological process by which the uterine apparatus, in part at least, accomplishes involution; it is by but an easy perversion that this process, with its peculiar activity, becomes pathological. Mark, too, the uterus, honey-combed with sinuses, ready to receive material however noxious, and to transmit it to the general system; the interior of the uterus and of the vagina, a very hot-bed for the generation and proliferation of septic germs; the sinuses themselves, hidden recesses in which septic poison may be secreted, and in security be nourished.

Here, too, German experimentation has shown that whereas the surface of a flap may be bathed in septic fluid with negative results, a small quantity of the same fluid injected into the cavity of a puerperal uterus will occasion the most marked blood-poisoning with its local lesions. These experiments show how much more susceptible a

puerperal individual is to the septic poison than is an ordinary surgical patient.

The relation between erysipelas, which tracks the surgeon, and puerperal fever, or puerperal septicæmia, which tracks the obstetrician, must here be considered. I think that the identity of endemic puerperal fever and of septicæmia is established, and also is established the fact of the ability of erysipelas and of puerperal septicæmia to mutually communicate each other. So septicæmia also at times follows the surgeon under the form of erysipelas, as it follows the obstetrician under the form of puerperal fever.

I think it important that the septicæmia nature of endemic puerperal fever should be recognized, or otherwise efficient preventive measures may not be adopted.

The close connection between erysipelas and puerperal septicæmia is now generally accepted. Jarvis, in his analysis of the United States census for 1860, and Miner for 1870, have shown the occurrence of the two affections with greatest frequency in the same sections of the United States, and in the same seasons of the year, *i. e.*, in the spring months. Statistics of such extensive character teach a valuable lesson, although the records of New York City and of other cities do not seem to point to a joint occurrence of the two diseases. I have repeatedly noticed the association of the two diseases in the Philadelphia Hospital. The infant contracts erysipelas from its septicæmic mother. The physician conveys a poison from a case of erysipelas to a parturient woman, and she has septicæmia. Endemics of puerperal fever have been repeatedly traced to cases of erysipelas as the starting-point. By experimentation a septic fluid applied to a cutaneous wound has produced erysipelas; the same fluid injected into the puerperal genitals causes puerperal septicæmia with its local lesions.

It has been argued, however, that, although from a case of suppurating erysipelas, a septic poison may be conveyed to a lying-in woman, and establish in her puerperal septicæmia; yet, if the erysipelas is non-suppurating—is merely cutaneous—a poison can not be conveyed to the woman that will produce puerperal fever or septicæmia. This is dangerous and erroneous teaching. The question must be determined by the experience of individuals; not by negative observations, but by the positive experience

of those who have been so unfortunate as in this manner to have produced the disease.

A prominent obstetrician of Philadelphia has related to me a fatal endemic originating in his own practice from a case of cutaneous erysipelas. The poison of erysipelas, whether suppurating or non-suppurating, will establish septicæmia in the lying-in woman.

There seems to be a close relation also between diphtheria and puerperal septicæmia. If a parturient patient is in close proximity to a case of diphtheria, she is liable to contract the disease; but instead of the throat lesions occurring, a most extensive deposit may occur on the genitals, and a fatal termination speedily take place.

In 1866 there was a severe endemic of diphtheria among the children of the Philadelphia Hospital. Soon a virulent endemic of puerperal septicæmia occurred. Yet I have not seen diphtheria develop in the children of septicæmic patients.* There does not seem to be as close a relation between puerperal septicæmia and diphtheria, as between erysipelas and puerperal septicæmia. Still there are strong reasons for believing that diphtheria develops from the absorption of septic poison. The diphtheritic deposit, almost invariably present in the genitals of a septicæmic patient, has been pronounced to be morphologically identical with the deposit in the throat of a case of genuine diphtheria.

The relation of bacteria to septicæmia, erysipelas, and to diphtheria, has become an interesting and an important question. Their abundant occurrence in these three diseases furnishes a further connecting link between them. That these little organisms are the essential causes of these affections is the firm belief of many observers. Whether they are the causes, however, or are merely incidentally present, has yet to be definitely determined.

Scarlatina has a peculiar influence on a puerperal patient. There is great diversity of opinion as to the nature of this influence.

Olhausen has presented the best paper on the subject. He claims that the poison of scarlatina will remain for weeks latent in the system of a pregnant woman, not showing itself until two or three days after delivery, when

*There are cases recorded of diphtheria thus originating. See Oliver W. Holmes.

it will appear with peculiar intensity. He says that pregnancy diminishes, while the lying-in intensifies, the susceptibility to the disease; that the disease often progresses without inflammation of the pelvic tissue; that the throat symptoms are usually slight, and that a fatal result may occur without any pelvic lesion being presented after death.

There seem to be instances, however, in which exposure to the scarlatina poison has produced in the puerperal woman virulent pelvic inflammation with systemic disturbance, and with or without a scarlatinous rash. The local and the general conditions in such cases are indistinguishable from those of malignant septicæmia.

I think that malarial fever, affecting a puerperal patient, renders her more liable to septic poisoning. It is probable that the poison of malaria, particularly that of scarlatina, generates in a slight, traumatic lesion, destructive inflammation, that septic material is formed, absorption occurs, and that the patient must thus struggle against septicæmia and scarlatina, or against septicæmia and malaria combined. This explanation would account for the relative greater frequency of puerperal fever in the Southern and more malarial States.

A pelvic traumatic inflammation contributes after labor to the rapid development of the septic material. In inflammation, the diminution of the lochial flow, the retention of material which should escape in the flow, the increased temperature of the parts, and the relaxed condition of the uterus, contribute to septic decomposition. A puerperal woman suffering from traumatic inflammation should be treated and handled as if her genitals were a store house of septic poison, from which her own system may become contaminated, or from which other lying-in women may become infected. The liability of a patient with traumatic puerperal inflammation becoming the source from which septic poison may be transferred to other lying-in women is not sufficiently borne in mind.

It is mainly in the prevention of puerperal septicæmia that modern views in reference to the disease are proving of the greatest benefit. Accepting the teaching of the septic origin of puerperal fever, prophylactic measures must be of such a nature as will ward off from the lying-in woman all septic material; and in addition she should be protected from those agencies and conditions which in-

crease her susceptibility to the disease. As far as possible she should be saved from traumatism and hemorrhage during labor, from the dangers of a too early getting up, from the effects of a contaminated atmosphere, etc. She should be especially watched if affected with Bright's disease, acute inflammation, or an eruptive or essential fever, etc.

The physician and the nurse should not be contented with observing ordinary cleanliness of hands as obtained by the brush, and by soap and water, but should wash them in carbolized water, before undertaking the delivery.

It is my invariable custom after each forceps delivery to give my instrument a thorough washing in carbolized water. The custom of using a woolen bag for years as a receptacle for the forceps is a bad one, as is also the custom of daily wearing the same pair of riding gloves for a period of months. Prophylaxis is made up of very many precautions, too numerous to enumerate, but none of them too small to warrant attention.

I believe in the benefits to be derived from the use of hot, antiseptic, vaginal injections after each labor. They tend to secure complete uterine contractions, check too great oozing of blood from the cavity of the uterus, or from lacerations of the soft parts, keep the genitals free from clots, and stimulate the sexual apparatus to healthful involution. The rule, to empty the uterus thoroughly of all clots, membranes, portions of placenta, etc., can not be too strictly observed. It is reprehensible to leave the placenta or a portion of it in the uterus for a number of days or for several hours, with the hope that it will be eventually expelled without injury to the patient. The poisoning will often be slight, but not infrequently it will prove fatal. When portions of the products of conception are retained in the uterus, even if somewhat adherent, the intra-uterine injection of hot water (112° F.) will usually cause their speedy expulsion.

I can not approve of the introduction of the hand into the uterus, nor of the injection of such a styptic as Monsel's solution, in order to control post-partum flooding. For this purpose I think that the intra-uterine injection of hot water (112° F.) should be the measure adopted, if it becomes necessary to resort to any intra-uterine remedy.

In the treatment of puerperal septicæmia, routine measures would prove as unsuccessful as they would be un-

scientific. Endemic cases, however, have a closer resemblance to each other in the symptoms and in the lesions than do the isolated cases; they present more nearly uniform indications for treatment. In endemic cases, which are also cases of external infection, I have seen the most undoubted and marked benefit derived from the *early* abstraction of sixteen to twenty ounces of blood by leeches applied to the lower portion of the abdomen. I have followed this application with hot poultices, have used daily hot antiseptic vaginal injections, have given sixteen to twenty grains of quinine daily with morphia enough to relieve pain or restlessness, stimulants as indicated by the degree of depression, and an abundance of nutritive food. During an endemic at the Philadelphia Hospital, in 1877, there was a mortality of fifty per cent. of the cases that were not leeches, while only twelve per cent. of those leeches proved fatal.

In cases of internal infection, which are usually isolated cases, I feel that the abstraction of blood must be deprecated, and for these reasons. In these cases the symptoms of the poisoning come on insidiously, and we scarcely know the incipency of the disease, and it is only in the incipency of the disease that the abstraction of blood can be justifiable. The source of the poisoning is usually a mass of septic material, placenta, membranes, clots, sloughs, etc., from which absorption is occurring continuously. A physiological effect of bleeding is to stimulate absorption; hence, this measure would expedite the entrance of septic material into the system. If an attempt is made to remove the offending substance, the removal of all septic material at once need not be expected. The *membrana decidua* under such circumstances has undergone septic decomposition, and its removal must be by a gradual process. Intra-uterine antiseptic injections, invaluable as they are, will not at once thoroughly cleanse the uterine cavity. Hence, the abstraction of blood in such cases can not be rendered safe, but must prove harmful. With endemic septicæmia it is different. Here the poison, in a concentrated form, reaches the woman during confinement, and is absorbed at that time or immediately afterward, and usually from the vulva or lower vagina. There exists in such a woman no mass of putrid material, for subsequent and continuous absorption, and the imperceptible amount of poison deposited on the genitals, has

probably been entirely absorbed, or is situated where it can be removed by antiseptic syringing. In endemics, then, the abstraction of blood in the very incipiency of the attack does not encourage further absorption of septic material. A trial of the measure has convinced me that it does decided good, and probably not by removing the poison from the system, but by relieving the engorgement of the pelvic tissues, and by thus placing these tissues in the best possible condition for successfully resisting the disturbing influences of the poison, until the system, chiefly through the agency of the kidneys, is enabled to get rid of the poison itself.

In the management of cases of septicæmia of internal origin, I endeavor to cleanse the genital canal of all putrid material, by external compression, by syringing with hot water, and, if need be, by the introduction of the hand. In such cases, repeated intra-uterine injections of an antiseptic fluid are imperatively indicated; in fact, they constitute a most essential remedy. Opium, quinine, stimulants, abundant nutrition, with attention to the proper performance of the excretory functions, meet the remaining indications.

Malignant Diseases.

BY GEO. WRIGHT, A. M., M. D., VICE-PRESIDENT.

(Read Before the Toronto Medical Society.)

My object, Mr. President, in reading this paper is, not so much to discuss the subject of malignant diseases in all its breadth, as to give the results of my own personal experience in coming in contact with the various manifestations of these diseases, and the conclusions to which I have been led in my inquiries. To undertake an elaborate discussion of a subject so comprehensive, and involving so much mystery, would be a task at once laborious, and without any special profit in the present state of uncertainty among scientific men regarding almost every important feature of what is known as the cancerous dyscrasia. Despite all that has been said and written upon the subject, it is a painful reflection that malignant diseases, at whatever point in the human frame they make their appearance, seem to pursue their insidious course,

with but one termination—the ultimate destruction of the lives of their victims. In these, more than in any other form of disease, the professional man is brought face to face with the unpleasant fact, how utterly helpless he is, further than to mitigate in some degree the urgency of the symptoms as they present themselves. Other forms of disease, which resemble cancer in the commonly fatal results of their invasion of the system, differ, however, from it in the fact that they are occasionally so far arrested in their progress as not to destroy life always. We have frequently, for instance, seen unmistakable evidences of the arrest of tuberculous disease in persons who ultimately succumbed to some other affection having no relation to tuberculosis. But it is extremely doubtful in my mind if there ever was a *bona-fide* example of the arrest of any form of malignant disease. It will not be doubted that such cases are commonly found in the records of charlatanism. And, perhaps, it is not too much to say that no form of lingering disease has afforded so ample a field for the various forms of quackery as malignant diseases. From time immemorial almost, such assurances as the following have been tendered to a too-confiding public: “A certain cure for cancer.” “A painless, but effectual cure for cancer.” “Wonderful discovery! cancer cured without the use of the knife.” “Cancer drawn out by the roots by a certain and comparatively painless process.” “The surgeon defeated. The knife no longer called into requisition for the effectual cure of cancer.” “Suffering surely and certainly avoided.” Such are a few of the specimens of advertisements distributed by nostrum vendors everywhere within the limits of civilization. Indeed this may be regarded by some as one of the blessings of an advancing civilization. It is doubtful if there ever was a time in the history of the race, when the public were more susceptible to the influence of imposture than at the present moment. This conviction was peculiarly strengthened in my own mind the other day during a conversation with an acquaintance, who has been a somewhat serious sufferer for some time from chronic rheumatism. Finding no permanent relief in the ordinary channels, he was induced to try the skill of one not far from any of us, and a great deal too near to some of us, who has long been reputed to possess the miraculous gift of “*going through people*” while in a state of sleep or trance, never forgetting,

I believe, that part of the individual in which his purse is most commonly found. The gentleman to whom I refer entered into a very elaborate account of the manner in which this remarkable person diagnosed his case. He told all about the body, he said, from the crown of the head to the soles of the feet, describing with marvelous accuracy the seat of disease, and the nature of it. While admitting that he had received no benefit whatever from the course of treatment to which he had been submitted, this gentleman expressed himself as very much impressed with the gift with which his newly-found doctor appeared to be endowed. The history of this notorious charlatan's success in trading upon public credulity is at once an illustration of how little success is necessary in our profession, and how easily the great mass of the people can be persuaded to accept imposture instead of science.

We often hear it remarked that the various forms of malignant disease are greatly on the increase. This may or may not be true. From my own observation I am unable to offer any positive opinion, although I am disposed to question the statement. Without doubt, there is very much more in this country than there was twenty-five years ago; but whether or not the proportion of malignant diseases to the entire population is any greater now than it was fifty years ago, is a question upon which my reading or observation has led me to feel at least some degree of doubt. If the advance of medical science is accomplishing anything, it ought to be at least putting the profession in possession of those expedients by which the susceptibility to all forms of disease will be gradually diminished. My own impression is that, although, once existent, the disease is no more amenable to treatment than it ever was, professional knowledge of the various sanitary measures tending to lessen constitutional susceptibility has advanced very perceptibly; and that the time may yet come when to those who scrupulously follow the instructions which may be imparted, all forms of disease will be stripped of much of the terror which they now inspire. We know, for example, or at least those who believe in the value of vaccination think they know, that this expedient has rendered one of the most loathsome and pestiferous diseases largely, if not entirely, controllable. I very much doubt if a scrupulous observance of the necessity of vaccination, and its careful and effective per-

formance, would not effectually stamp out small-pox in one or two generations. We know, also, that an acquaintance with the sources by which contagious and infectious diseases are created and propagated has had the effect of lessening the number, as well as the virulence of epidemics. The various types of malarious disease, for example, as well as those arising out of specific poisons, have had fewer outbreaks during the last twenty-five years than formerly, and the virulence of these outbreaks has been materially lessened. May we not reasonably hope that, as our knowledge of prophylactics and sanitary matters becomes more systematic and scientific, we may be able to control some diseases that now sorely perplex the profession, and impair our usefulness? I am somewhat hopeful that an era in medical research may be dawning upon us that will greatly aid in lightening our burdens, and in the course of time, lessen the necessity for such a class of community as physicians and surgeons—a consummation, in the opinion of some, very devoutly to be desired.

I have been struck, in my experience with malignant disease, with the frequency with which what proved to be well-marked cases have been masked by the prominent symptoms of other forms of disease. In two cases of cancer of the kidney—the one scirrhus and the other encephaloid—that came under my own observation, this fact was strikingly illustrated in the early stages of the disease. With your permission, I will give the histories of these two cases:

Mr. M—— first consulted me about the month of June, 1873. Careful inquiry into all his symptoms, previous history, etc., seemed to me to point conclusively to renal calculus as the source of trouble. The patient was a robust, well-developed man of about fifty years of age. His complaint was pain in the back over the region of the left kidney, not distressing all the time, but simply amounting to uneasiness. He was subject, however, to occasional spasmodic attacks of the most excruciating pain, commencing in the region indicated, and extending down the track of the ureters, and accompanied with well-marked retraction of the testicle on the affected side, and very considerable nausea. The patient was reduced almost to a state of collapse on each recurrence of these spasms, and on their subsidence, he remained very much prostrated

for some time. Another peculiarity was the occurrence of a copious hæmaturia after each spasmodic seizure. The patient experienced speedy relief from each seizure by the use of moderately large doses of morphia with hot fomentations, the subsequent prostration being relieved by tonics. A peculiarity of these attacks, which strikes me as noteworthy, was the fact that they invariably followed some unusual exertion. The patient was what is called a "boss" carpenter in the G. T. Shops, and occasionally was tempted to make tolerably heavy lifts, with the invariable result of inducing a violent spasm of pain such as I have described. This condition of things continued until he had suffered the third attack in my hands, when, as the trouble seemed to be excited by exertion on each occasion, he was advised to take absolute rest for several weeks, and he appeared steadily to improve until I left him, as I hoped, so far convalescent as no longer to require my services. This was in January, 1874, and I saw no more of him until early in the following September, when I casually met him. His appearance indicated steady decline since my last visit. There was great loss of flesh, and his gait, through weakness and suffering in his back, was quite unsteady. During the interval that had elapsed, he had been induced to try a somewhat celebrated Buffalo physician, who, I believe, undertakes to diagnose and cure disease without seeing any more of his patient than a small drop of his urine. The account, however, that this patient gave of the celebrated doctor was not of the most flattering character.

I gave my patient no great encouragement to hope for permanent improvement, as it was very apparent that his health was steadily declining; but I advised further counsel in the case, and, accordingly, Dr. H. H. Wright saw him with me. Still we were unable to seize upon any feature of the patient's case to justify a change of opinion. I saw him regularly alone from this time to the beginning of December, during which time nothing striking occurred, except that, when quiet, the attacks of hæmaturia recurred, but unaccompanied by any severe pain. Further advice was solicited, and Dr. Small saw him with me. The patient was then submitted to an equally searching examination, but with no other result than a confirmation of the former diagnosis. This poor fellow steadily but surely declined in health, and finally sank in the month

of March, 1875. Until within a very short period of death, there was nothing in this case to justify any other conclusion than that already reached by the gentlemen named and myself. I have since been informed by the wife of deceased that two other medical men, who saw him before he fell into my hands, expressed a similar opinion regarding the nature of the disease. But about a fortnight before his death, this patient's expression assumed a character which began to shake my faith in the former diagnosis. The peculiar cachectic appearance, so characteristic of most cases of malignant disease that have come under my observation, became strikingly manifest. By the kindness of the friends, I was permitted to make a *post mortem*, when our former diagnosis was not very exactly verified. There was disease of the left kidney, but we didn't find any stones there. It weighed in the neighborhood of eight pounds, avoirdupois. There was not half a cubic inch of normal structure in the entire organ. It was one mass of encephaloid substance of the most typical character. The disease was altogether confined to the left kidney, the right one being normal both to touch and general appearance, but somewhat larger. None of the other organs, so far as examined, was involved in the disease.

The second case of this kind that came under my notice was equally remarkable in the way in which the disease was masked by symptoms more nearly resembling those of other forms of disease.

Mr. J—, a railway engine driver for many years—unmarried—about forty-five years of age. Habits not of the most exemplary character. His last illness extended over a period of about nine months. During the first six months he was under treatment for what appeared to be chronic, sub-acute rheumatism. There was pain in the back in the region of the kidneys, and extending down the back of both thighs, but more acute in the left thigh. When I saw the patient first, he had been under treatment between six and seven months. His condition then was one of very considerable emaciation, the cancerous cachexia having become quite marked. When I first visited him, he was in the hands of a second physician, whom we all know, and who diagnosed his disease as being connected with the liver, but what it was I am unable to say. He pronounced the case hopeless, however, and ceased to

attend the patient. Another medical man was in charge when I next visited this patient, and he happened to come in during my visit, and it was then that the idea of malignant disease in some form first suggested itself. But so obscure were the symptoms, apart from the peculiar cachexia, that neither of us would undertake exactly to locate it. The man sank in a few weeks, and it was my good fortune to be permitted to make the *post mortem*.

We found, first, an enormously enlarged fatty liver, four times the normal size as nearly as could be estimated at sight. On removing the left kidney it was found to be one mass of scirrhus, scarcely any of the normal substance remaining. The right kidney was also involved to from one-third to one-half its extent. We also found that the disease involved the glandular structures along the spine as far up as the diaphragm, and I think that if the investigation had been pursued into the thorax and the spinal cord, both regions, as well as the base of the brain, would have been found to be implicated, as there was marked ptosis of one eyelid for some days before dissolution. One strange anomaly in this case, which, to the present hour, is utterly inexplicable to my mind, was the fact that up to the last hour, almost, of this poor fellow's illness, there was no perceptible diminution in the quantity of urine secreted. Certainly there was not the most remote symptom of uræmic poisoning, first or last. The patient slowly sank, apparently from exhaustion pure and simple. How did this fractional part of one kidney so completely discharge the functions of two sound kidneys? I don't know. Now, the early history of this case was only obtained from the patient himself, and may not be accurate in all particulars. I am persuaded, however, that the nature of the disease was not detected, and I am not surprised. I doubt exceedingly if any medical man would have had sufficiently reliable data upon which to establish an accurate diagnosis during the first five months of the patient's illness. Up to the last there really was nothing reliable to guide us, except the peculiar cachexia, which certainly was very marked, and which I regard as a most important diagnostic sign in most cases, although even it has failed to my own knowledge.

I have been struck with the singular fact that malignant disease may exist in an organ, and may be insidiously

pursuing its steady course toward a fatal termination long before its existence is even suspected.

The following case very well illustrates this fact: Mrs. M—— first consulted me in the month of September, 1876, about four months before her death. She was about twenty-nine years of age; had been pregnant six or seven times, but had only given birth to two living children. When I first saw her she was looking pale and worn, and was complaining of a sharp pain in the left breast over the fifth rib, near to its articulation with the sternum. Careful examination of the chest failed to reveal any lung lesion to account for the symptoms from which the patient suffered. Her youngest child was twelve months old, and as she still continued to nurse him, I concluded that her symptoms were neuralgic in their character, and arising out of the debility from which she was suffering. I accordingly ordered tonics of quinine and iron with generous diet, and the discontinuance of nursing. I saw nothing more of her for a fortnight, when I was hastily summoned, and found her suffering most acutely from pain in the region indicated. The spasm partook largely of the hysterical type, and under valerian, and other anti-spasmodics, yielded quite readily at first. But the patient never was entirely free from pain in the breast. Another careful examination of the chest satisfied me that there were no indications of the ordinary lung lesions. During this examination, however, my attention was directed to a distinct tumor in the region in which the patient complained of pain. It was firm, involved the fifth rib, and had all the appearance of periosteal inflammation. On inquiry from the patient, I discovered that her husband had not lived the most exemplary life; and coupling this fact with the other already indicated, that out of six or seven pregnancies there were only two living children, I suspected specific contamination, and at once submitted the patient to the ordinary specific treatment. This was continued for a fortnight without any preceptible improvement, when I requested a consultation, and Dr. Russell saw the patient with me. We were still impressed with the idea that the trouble was specific in its origin, and the treatment was continued for another week. The patient then complained of a very disagreeable vaginal discharge for the first time. She had never, up to this time, complained of the slightest uneasiness in the region

of the womb; and although there must have been some discharge previously, it had not been of sufficient consequence to cause her to direct attention to it. I made an examination *per vaginam* at once, and, to my great astonishment, discovered destructive disease of the *os*, and cervix uteri, which had already eaten away the external lip of *os*, so that my two fingers could be easily introduced as far as the internal *os*. The edges of the ulcerated portion were irregular and sharply defined, and to the touch were very much indurated. I again called in Dr. Russell, and a careful examination was made with the speculum. The result verified my own opinion, so far as it could be verified with the naked eye, that the disease was malignant in its nature, and of the character of carcinoma. The patient slowly sank from this time, and died from exhaustion in about four months after I first saw her. But a somewhat unusual, although not unparalleled, occurrence was associated with this case a few days before death. She was delivered of what appeared to be a foetus advanced to the end of about the fourth month. The patient never suspected from the first that she was pregnant, and nothing could be gathered from her history to justify the opinion of the existence of such a condition. I find, from a paper read before the Medico-Chirurgical Society of Montreal, by Dr. MacDonell, that a case occurred in his practice in which there was pregnancy coincident with scirrhus of the breast, which advanced to the full term, and the patient died during parturition.

The peculiar feature of this case, to myself, was the long existence of disease of the womb, and the extensive progress it had made before any symptoms presented to attract attention. The age of the patient was also quite unusual. I find, from the authorities at my command, that the percentage of cases of malignant disease before the age of thirty is exceedingly small.

Another case came under my notice, illustrating in a most striking manner how insidiously malignant disease sometimes advances to within a few weeks of a fatal termination without the existence of a single symptom betokening malignancy. It was that of a young physician of my acquaintance, who died at the early age of thirty-three, of scirrhus of the stomach. Six weeks before death he was attending to his business, complaining of nothing but general debility. When he first sought advice from

a brother practitioner, there was nothing, either in his appearance or his symptoms, to justify any other conclusion than that he was simply run down in health, and required rest and change. About three weeks before death, the first alarming symptoms presented in a very suspicious-looking vomited matter. Careful examination then by the attending physicians gave decided evidences of scirrhus toward the pyloric end of the stomach, and this diagnosis was fully verified by *post mortem* examination. The age here was also quite unusual, especially when taken with the fact that no positive evidence of hereditary taint could be made out in the family history.

Pain is not, in my experience, a very reliable guide in the diagnosis of any of the forms of malignant disease, more particularly, however, in those cases which happen to be located in distensible parts, such as the neighborhood of the sigmoid flexure of the colon, and adjoining portion of the rectum. I saw a case illustrating very well this peculiar phase of malignant disease, and possessing several points of interest to myself. The patient was a married woman, age thirty-eight, the mother of six children, the youngest being three years of age. She had suffered more or less during the last eight years of her life from habitual costiveness and periodic attacks of colic, which, so far as could be ascertained from her history, were variable in severity and duration. I did not see her until her last illness, and I confess that, to myself, the patient's recollection of the character and progress of the disease gave only a very disjointed history. She was clear, however, as to the date at which her trouble first commenced to cause her suffering; namely, eight years previous to her death. She had observed a gradual lessening of the calibre of the fecal discharges when they were consistent, and she was always costive. She suffered more or less severely during all these years from periodic attacks of colic, which, up to the time that I first saw her, yielded to the use of opiates and fomentations. I was first hastily called to her, and found her suffering intensely from pain all over the stomach and bowels, with a good deal of flatus. These symptoms yielded readily to the use of opiates, and in a few hours the patient was tolerably comfortable. There was still, however, a good deal of what would be called uneasiness in the left iliac region, with some tenderness on pressure. But what struck me at once

was the fact that, with all this suffering, there was little or no elevation of temperature, and absolutely no acceleration of the pulse, and hence no evidence of peritoneal trouble. After two or three days, finding that the bowels had not been moved, I ordered a full dose of castor oil; found on following day that it had no effect; ordered another full dose, no effect still; ordered injection of soap-suds, still not the slightest indication of motion; asked for a consultation, when Dr. Aikins saw the patient with me, and advised pushing remedies with a view to opening the bowels; then gave two ounces of castor oil, with half an ounce of spirits of turpentine in emulsion, followed in three or four hours by another injection of soap-suds and an ounce of spirits of turpentine; still not the slightest indication of relaxation. Dr. H. H. Wright then saw the patient with me, and we tried everything that was considered of any use, but to no purpose. Finally, we determined, under the use of chloroform, to introduce the hand into the rectum, and try to reach the obstruction if possible. I should have stated that, by introducing the stomach tube, we were satisfied that the obstruction was somewhere in the neighborhood of the upper end of the rectum. Introduction of the hand verified this notion, and the existence of a firm tumor in the region of the sigmoid flexure of the colon. The patient sank soon after the operation, and I was permitted to make a *post mortem*. We found, at about the junction of the sigmoid flexure with the rectum, a hard tumor, about the size of the ordinary shut fist, and somewhat the same shape. On examination, the tumor was found to have had its origin in the mucous membrane of one side of the bowel, and to have steadily increased in size, until it entirely closed the passage, and had formed somewhat firm adhesions all around with the mucous membrane. Microscopical examination of specimens of the tumor proved it to be the adenoid variety of cancer.

With the exception of a slightly marked cachexia, apparent in the face and on the surface of the body of the patient, there was not a solitary indication of malignant disease first or last, except, perhaps, some uneasiness in the iliac region, and the gradual narrowing of the passage, as indicated by the character of the stools from time to time. This patient began at an early age—thirty years—to be afflicted with this disease, and I was unable to

obtain any circumstances in her family history pointing to marked heredity.

I believe there is no single symptom of the existence of malignant disease of greater diagnostic value than that peculiar color of the skin, which is most accurately described as brassy, and which, while it resembles jaundice slightly, nevertheless differs from it very strikingly. In nearly all the cases I have seen, this appearance was well-marked at some stage of the disease. In three or four of the cases, the histories of which I have given, it really was the only symptom to guide in the diagnosis. I should, therefore, regard it as one of the strongest indications of the existence of malignant disease where its location was at all obscure.

From my own experience I conclude that in no form of disease is the medical man more likely to be thrown off his guard, and to be utterly disgusted with the results of medical research than in those of the malignant type. I am quite persuaded that here is a field for scientific investigation as broad as any in the whole domain of medical science, and gathering around it issues as momentous to the human family as are found to be associated with any other conceivable form of disease. I am equally certain that we have not reached, as yet, anything like a satisfactory solution of the mysteries surrounding this class of ailments. We want some one who can unravel the mystery of the origin of the cancerous dyscrasia. We have plenty of literature upon the pathology of the disease, but very little that is really valuable. After all, it is a very poor satisfaction, especially to the unfortunate patient, to be able, after careful microscopical examination, to say that he died of cancer of some kind. There is a good deal of force in the remark which I once heard one of those queer characters make, whom we see retail at auction, in the market square, patent medicines of various kinds. He wound up one of those brilliant perorations, in which he discoursed most eloquently upon the marvelous powers of the remedies offered, with the significant query, "What's all the world to a man when his wife's a widow?" Well, so we may say, what's all our scientific disquisition upon the nature of the appearances of that which killed our patient going to avail so far as he or she is concerned? In short, of what avail is it at all, if it is not helping us at least to relieve those who may after-

ward suffer in a similar way? That the subject of cancer has thus far completely baffled all who are engaged in medical research will not be denied, at least so far as it has helped us to a successful treatment of the various forms of the disease. We are just as powerless, either to overcome the susceptibility to cancerous disease, or to successfully control it after it has clearly attacked the system at the present moment as we ever were. It is true, we know, or we think we know, that cancer is a local manifestation of a general or constitutional contamination, and that the products by which this systemic contamination occurs are elaborated in the blood. Beyond this we are unable to go. It is true, also, that the surgeon's knife has been pretty freely applied in some cases, with the effect of hastening the fatal issue in the vast majority of those who have submitted to the operation, and in the remainder, of only postponing it at best.

But if pathologists have already reached a rational solution of the nature of cancer, so far as to be satisfied that its development in any organ or tissue of the body is but a local manifestation of a general systemic contamination, and that the products of this contamination are originally elaborated in the blood, we may be nearer to the grand solution of the mystery than we would now be prepared to believe. If this doctrine as to the origin of these diseases be the correct one, and I do not for one moment doubt it, then why should we not reasonably hope that a means exists already, and that, in the not far distant future, it will be discovered by which the profession may control the disease as effectually at least as we now control the constitutional effects of the syphilitic poison? I doubt if there is any conceivable form of disease that afflicts humanity for which a remedy has not been provided somewhere in the wide domain of nature.

Since, therefore, we have discovered, in mercurials and iodide of potassium, an effectual means of neutralizing, if not entirely eliminating from the system the syphilitic poison, and since, also, we have found in the cinchona bark and its alkaloid, as nearly as possible, a specific for the treatment of intermittent fever, it is not unreasonable to expect that it will fall to the lot of some one, at no distant day, to present to the world a remedy by which the cancerous dyscrasia may be not only controlled, but entirely overcome; and the profession will be in a posi-

tion to relieve a degree of suffering in society, such as must be personally realized in order to be accurately described.

The Imagination.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

THAT there are certain changes which take place in the mind during intellectual operations, we will admit, but to demonstrate how such changes are produced, we will leave to a Hamilton or a Porter. We wish to refer to that division of the mind which by its action combines ideas and "bodes forth the form and images of things." It is not our intention to deal with this subject in a physiological or psychological manner, but to relate a few instances where the imagination has been a major factor in the premises.

In London, about the time of Johnson the great lexicographer, a man had a brass rule, which he claimed would cure all kinds of diseases. All that was necessary was to have the rule applied to the person afflicted. The cures that were claimed for it were almost miraculous, and it is reported that those who were sick and had it applied got well. Whether it was applied to or near the organ or part most at fault, or whether the operator made use of the mumbling incantations that were in vogue in those days, and still used by some of the so-called enchanters and sorcerers, we are unable to say. It was supposed that this rule contained some kind of intrinsic power, not possessed by any other being or object, and that by the application of the brass to the patient, this unexplainable force passed to the part afflicted and destroyed the *materies morbi*, and immediately the patient began to convalesce. People who were afflicted, and had heard of the wonderful cures produced by this method, had the rule applied, confidently expecting to be relieved. Some person with a skeptical disposition conceived the idea that the healing power was not in the brass rule, but the imagination, and by a sharp trick proved his reasoning to be correct. He had a brass rule constructed exactly like the curative (?) one. Then he purloined the latter and substituted the former. The results produced by the

substitute were the same as by the original brass rule. This proves that the imagination was the principal factor in all those cases where an alleged disordered condition of the system was restored by the application of this wonderful brass rule.

When the Indian medicine man, clothed in a bear's skin, dances around the sick squaw and beats upon his old rattle box, the cure, if such it can be called, depends upon the imagination of the patient, who believes that such proceedings will drive away the evil spirit, and restore to her health.

Hippocrates did not hesitate to use deception, depending upon the influence produced upon the mind for relief in certain diseases, supposed or real.

Dr. R. D. Mussey stated in a lecture that upon one occasion a woman called upon him for treatment. An examination revealed a benign tumor of the neck. He did not consider an operation advisable or necessary, but ordered some application, which was used without any material benefit. She then called upon a sorceress, who, by her peculiar performance, made such an impression upon the patient's mind that the tumor disappeared. The sorceress then told her that the "tumor would remain away" as long as a regular physician was not permitted to touch her neck at this point. Some two or three years later Dr. Mussey happened to meet the woman, and placing his finger upon her neck where the tumor had been, remarked: "I see the tumor has disappeared." The astonished woman exclaimed: "There, now, you have touched the place, and the tumor will come back," and the doctor said, that sure enough it did.

A lady consulted Dr. Thacker, the editor of this journal, on account of an inability to sleep at night, and wanted him to give her morphia. After an examination he was convinced that morphia was not necessary, but recognizing the fact that when a patient has definitely settled in his own mind that he is sick and must have medicine, that it is useless to undertake to explain away the disease without medication, he accordingly acquiesced, and gave her small powders of *farina*. Afterward she saw the doctor and told him that some of the powders were too large, as she occasionally slept so soundly as to produce headache. Without her powders she could not

sleep. By taking one at bed-time she slept soundly all night.

Some time ago I treated a patient who was troubled with constipation. She stated that she had "a very obstreperous liver," that nothing would do it any good but blue mass pills. I ordered pills made of *micæ panis*, giving the impression that they consisted of blue mass, and in consequence of being freshly prepared, she had better not take more than two of them at a dose. She had not had an action from the bowels for four days, and as she had always taken three pills at a dose, she expressed herself as feeling sure it would be perfectly useless to take but two. Accordingly that evening she took three of the *freshly prepared blue mass (?) pills*. The next morning she stated that she had had four very free operations, and was feeling very weak, and wanted something to check the excessive action. I told her that I would give a checking powder that would stop any further action immediately; that she could rest assured that she would not have another action that day. I gave her pulverized cracker, and the "checking powder" proved a decided success. In the future, when it was necessary to resort to her "blue mass pills," she took but two, and they always produced the desired result.

We have seen patients who said that they could not sleep at night unless they had an hypodermic injection of morphia. We have given them upon alternate nights morphia dissolved in water, and water alone, and found that they slept as well with the latter as with the former. I think that in these cases, it is very evident, the effect is the result upon the imagination. The patient is satisfied that he can not sleep without the accustomed hypodermic injection. He has received several injections containing morphia and has slept soundly. He is convinced that he rested well as a result of the injection. He does not know whether there was morphia in the solution or not, but he believes so. He then receives an injection of water, and believing it to contain morphia, sleep follows in consequence of the mental impression. I think it questionable whether water, used hypodermically, has any hypnotic properties *per se*. It may have a local anæsthetic effect, but I have given it when pain was present without producing any relief. If the patient discovers that you are substituting water for morphia, the

effect is *nil*. In some cases a solution of morphia can be given in variable doses, and yet produce the same effect. In order to be successful, you must let the patient see that the amount of morphia is the usual dose. Before dissolving the latter remove a portion of it, and add water sufficient to make the ordinary amount of solution given. In this manner I have substituted two grains for four with the same result.

A number of other cases could be cited, showing that the imagination and mental impressions play an important role in the treatment of certain cases, but I think the above will suffice.

SELECTIONS.

Clinic of Prof. Roberts Bartholow.

Held at Jefferson Medical College Hospital.

I. A CASE OF PROGRESSIVE MUSCULAR ATROPHY ASSOCIATED WITH CONSTITUTIONAL SYPHILIS—REMARKS ON PATHOLOGY AND TREATMENT.

GENTLEMEN:—We have a case before us this morning presenting a number of characteristic phenomena. Observe the appearance of the hands; the fingers look like talons. There is great wasting of the thenar eminence, and indeed the hypothenar eminence is also atrophied. The interossei muscles upon the back of the hands have also dwindled. This state of things exists about equally in the two hands. We have here a history of disease beginning in the thenar eminences, and subsequently extending to the other muscles of the hands. The disorder was preceded by fibrillary muscular twitchings. When this wasting occurs it is always accompanied by a decided reduction in the local temperature. You are aware that the temperature of the body largely depends upon the changes going on in the muscular tissues; the lowering of the temperature, then, indicates lessened nutrition in the muscles. This atrophy, which begins in the smaller muscles of the extremity—usually, as in this case, in the thenar eminences of the hands—gradually extend upward, until it may involve all the muscles of the body. I have seen cases so far advanced that when placed in a

chair they were unable to maintain the body in a state of uprightness, but at once doubled up in a heap. The loss of muscular tissue makes the bones appear so prominent that the patients seem to be merely skin and bone. Finally the muscles of respiration are invaded by the disease, and difficult breathing results, hypostatic congestion of the lungs sets in, and pneumonia ends the case. This passive hyperemia occurs in the most dependent portions of the lung, and hence is called hypostatic congestion.

The condition under consideration is characterized by general wasting of the muscles of the body. It is known as progressive muscular atrophy, of which our patient is a typical example. It is a remarkable fact that this disease is most likely to occur in robust persons, with good muscular development, and accustomed to hard work. It is often hereditary, and several cases may appear in one family. It occurs at a period of life when the man should be at his maturity. Our patient is only forty-six years of age. In persons of great physical power, accustomed to putting forward much effort either in play or work, this disease most frequently occurs. Its course is comparatively slow.

The characteristic phenomena are at first some pain in the part, then fibrillary twitching of the muscles, followed by wasting and diminution of temperature at the place affected. Beginning, as in this case in the hand, it presently extends to the forearms and arms, and subsequently to the remaining muscles of the body. It only ceases its ravages when the muscles of respiration are invaded and death ends the scene. It does not always pursue this course exactly; for instance, I have seen cases where the disorder began in the muscles of the palate, the first symptoms noticed being inability to swallow the alimentary bolus. Sometimes it begins in the eye, and produces difficulty in co-ordination and double vision.

In speaking of the cause, which is generally considered to be overwork of certain muscles, I must not omit the fact that in this case there is evidence also of syphilitic taint. Even now he has some patches of psoriasis upon his hands, and there are mucous plaques upon the soft palate and uvula. Although we have not as yet obtained a satisfactory syphilitic history, as he has been taking

iodide of potassium, without effect, I would suggest a mercurial course.

R Hydrarg. iodid. viridis, gr. $\frac{1}{10}$;
 Extracti belladonnæ gr. $\frac{1}{8}$.

M. Three times daily.

What shall be done for the local wasting? Experience has shown that the various remedies brought forward thus far are practically useless; but when a case arises, such as this one before us, of a probable specific character, we must take a different view of the causation; for, if the local disturbance is due to a syphilitic lesion in the nerve, we may be able to do something, after the lesion has been removed, for the muscular wasting. When the atrophy is caused by disease in the nerve-trunk, or is secondary to a central lesion, it is very different from true progressive muscular atrophy; we take a very different view of the latter as regards prognosis.

What, finally, as to the curability of the lesion in this patient? Suppose we have a case like this, where the wasting is considerable. Assuming a syphilitic history, you can find whether the muscles are capable of regeneration by ascertaining the electrical contractility of the muscle. If it respond, we know that there is enough of the proper muscular tissue left to bring about some restoration of function; if not, the muscle has wasted so far that nothing remains but connective tissue and fat. In such a condition of course no cure can be effected. Another fact: A muscle that is wasted may not respond to the *faradic* current, but will contract under a *galvanic* current slowly interrupted. It may then be restored so that it will subsequently respond to both currents after the regular use of the constant current for a time. This shows that a physician needs both forms of battery, as often he can not find out the state of the muscle by the faradic current alone; but even when it will not contract at first under the induced current, the systematic application of the galvanic current may restore it to a condition where it will again react to the former.

II. ATROPHY AND PARALYSIS OF DELTOID MUSCLE FOLLOWING DISLOCATION—ITS MEDICO-LEGAL ASPECT AND TREATMENT BY ELECTRICITY.

Here we have another case of nervous disease which is interesting from various points of view, not only in its

clinical and pathological relations, but also in its medico-legal aspect.

The story of this little patient is worthy of your attention in this era of persecution of physicians by speculative suits for malpractice; it is instructive as well as interesting. This child had a fall, and suffered what is considered to be a dislocation of the shoulder. She was taken to an institution, and no doubt properly cared for. Afterward the arm was kept in a splint, and remained for some time in an enforced condition of rest. It was subsequently noticed that she could not raise the arm. With the aid of the opposite hand, however, the forearm can be brought in front of the chest, so that the hand of the affected side rests upon the shoulder. The mother attributes this paralysis to a mistake of the attending physician. In some States this might become the basis of a suit for malpractice, from which a physician would find it extremely difficult to clear himself. The palsy is due altogether to wasting of the deltoid muscle—a result of the original injury. This is very evident upon comparison with that of the opposite side. She is unable to lift the arm or even to abduct it.

Besides the medico-legal question comes this one: Is there a prospect of cure? There is, provided that the muscular tissues have not been replaced by connective tissue. If the muscular elements are entirely gone we can not restore the arm to its normal condition; if they have not all undergone this atrophic change we will be able to give her a useful limb. How shall we ascertain this point? By the test with electricity. First use the faradic current, and if there is no response apply the slowly-interrupted galvanic current. Suppose that I employ the induced current, and the muscles do not respond, what is the conclusion that I should come to? That the muscles have degenerated beyond the prospect of recovery? Is the question settled? No; I would make a great mistake if I should, for in some cases a slowly-interrupted galvanic current will obtain a response after the ordinary faradic current has failed. In such a case, in the subsequent course of treatment, the time will come when the muscles will respond to the latter form, which may then be substituted for the former. In this case there is ample response to the faradic current.

The task before us is comparatively a simple one. The

muscle affected is to be exercised daily with the faradic current, gradually extending the length of the sittings up to ten or twelve minutes. With passive movements of the arm and attention to health it is probable that the muscular tissue will be restored, and the muscle resume its functions and obey the orders of the will. We can also improve the condition of the muscle by frictions and the injection of water into its structure—injections of strychnine may also be practiced; but the important point is the exercising of the muscle with the faradic current until it can respond to the orders of the will.—*Coll. and Clin. Record.*

The Progress of Surgery.

THE progress of surgery is well illustrated in the following extract from a recent lecture of Prof. Von Nussbaum, of Munich:

That great scholar, Phillips von Walther, asserted that it was an impossibility for any man to see the deeper parts of the eye. He founded this statement upon the fact that the eye is a "camera obscura;" it is like a chamber with one window, and this window, as seen from without, appears always black, and does not permit of the remote parts of the room being seen. No one disputed this statement of Walther's; but scarcely was he laid in his grave when the ophthalmoscope was invented, and the deeper parts of the eye explored with almost mathematical exactness. The first step was to reflect light into the eye by means of a mirror; then the silvering was removed from a small portion of the back of the mirror, and so, while the rays of light reflected from the mirror lit up the interior of the eye, the structures could be conveniently examined through the transparent part of the mirror.

Dieffenbach, the bold German operator, wrote, in 1842, "It is unjustifiable to cut into the abdominal cavity in order to take out a diseased ovary. The organism will not tolerate such interference." Dieffenbach had only been a short time dead when ovariectomy produced splendid results in England; and now Keith performs fifty successive ovariectomies with only one death. A very modest calculation shows that through the ovariecto-

mies successfully performed in England, France and Germany, more than 30,000 years of life have been spared to the human race.

A few decades since it was considered that wounds of the intestine were invariably fatal; no one dared to put in stitches. Now the intestine is drawn out of the abdominal cavity, diseased portions to the extent of 10-12 cm. are taken away, and the healthy parts brought together. The bowel, carefully protected, is left outside the abdominal cavity for, perhaps, a few days, until it is soundly healed, and then it is returned into the abdomen. Thus it can not now be affirmed with truth that wounds of the intestine are necessarily fatal.

It is not so very long since a suggestion made by the surgeon, Carl Theodor Merren, to remove cancer of the stomach, was looked upon as "a beautiful dream of youth." However, Prof. Czerny demonstrated practically, four years ago, that a person can continue to live after the whole stomach has been removed. He cut out the entire stomach, and stitched the œsophagus to the intestine, and the digestive functions were carried on very well, and the patient had good health.

On Utero-Vaginal Injections in Childbed.

IN January, before the Obstetrical Society of Dublin, Dr. W. J. Smyly read a paper on this subject. Utero-vaginal injection in childbed was a practice of great antiquity, but had of late years been practiced to an extent far exceeding that of former times. The cause of this he considered to be twofold: First, the more general adoption of the *dictum* of Semmelweis, "that puerperal fever was, without any exception, a fever of absorption, arising from the absorption of decomposed animal organic matter," which led to a belief in the identity of that fever with ichorhæmia, septicæmia and pyæmia; and, second, the wonderful power of so-called Listerism in preventing the diseases in the field of general surgery, which leads to a desire for the employment of similar antiseptic precautions in childbed. Dr. Smyly then proceeded to show that the use of the utero-vaginal douche in childbed, though apparently rational, and easy of accomplishment, was, nevertheless, one not unattended with considerable

risk—either (1) from the irritation it might produce, owing to the high state of nervous excitability at the time of parturition, resulting in fits of hystero-epileptiform convulsions, ending even in death, as in some cases quoted; or (2) from the displacement of uterine thrombi, causing hemorrhage; or (3) from overdistention of the uterus, giving rise to inflammation, or possibly to the escape of fluid into the abdominal cavity through the Fallopian tubes; or (4) by the entrance of air into the uterine sinuses, as suggested by the younger Legallois in 1829. Dr. McClintock had explained the mechanism by which the entrance of air into the veins in such cases took place. The veins of the gravid uterus were remarkable for their extraordinary size, their freedom of inosculation, their total freedom from valves, and their termination on the internal surface of the uterus, at the site of the placenta, by large open orifices. The same condition of the organ which caused flooding was exactly that which was indispensable for the ingress of air; so that the latter, when it did take place, was almost of necessity preceded or accompanied by hemorrhage. That he considered a most important point, and one which had been observed in almost all cases where air or other fluid had entered the circulation. The usual symptoms of such an accident having occurred were, a gurgling sound, escape of blood from the genitals, sudden sense of oppression and breathlessness, collapse and asphyxia. The following case came under Dr. Smyly's observation, in the Rotunda Hospital, in 1879. M. M., aged thirty-five, was delivered of her first child in the hospital; the labor was natural, with the exception of laceration of the perineum, down to, but not through, the sphincter ani. All went well until the third day, when, the lochia being offensive and the perineal wound unhealthy, she was ordered to have the vagina syringed with a solution of Condyl's fluid, which was done by means of a Higginson's syringe, in the ordinary way. Suddenly the woman became collapsed, respiration ceased, the pulse at the wrist became indistinguishable, and the cardiac impulse, which could faintly be felt for some time, soon ceased. The surface presented a mottled, marble-like appearance, from over-distention of the superficial veins; in spite of all the efforts to restore vitality the woman died within twenty minutes of the accident. The *post-mortem* exam-

ination showed a quantity of frothy blood in the right heart; and when a knife was thrust into the distended iliac veins air escaped with an audible whiff. The dangers following the injection of carbolic lotion into the womb were not mainly due to the poisonous nature of carbolic acid, but as shown by Dr. Fritsch, were really to be ascribed to the action of a heterogeneous fluid upon the nervous centers; as the transfusion of lamb's blood and the injection of salicylic acid lotion were followed by a similar series of symptoms. There was yet another danger attending the use of the vaginal douche in child-bed, viz.: the possibility of communicating thereby the very disease it was intended to prevent, either by direct infection from septic instruments, or by the admission of air into the womb—a circumstance which must be looked upon as somewhat analogous to making a simple fracture into a compound one. He, therefore, deprecated the use of vaginal injections, as a routine practice to be employed in every case; but admitted that in a certain number of cases, especially those in which there was already gangrene decomposition, or the formation of gas going on in the uterus, it was most desirable. When injections were resorted to, it was most advisable that the method employed should be simple, and, at the same time, such as to reduce the risks to a minimum; for which qualities he recommended the common irrigator, with metallic tube and stop-cock, and condemned all pumping contrivances, such as Higginson's syringe, as its gum-elastic tube soon became soft, and readily cracked—thus rendering the absorption of septic matters most probable. It was also very liable to pump in air along with the fluid, and the stream being sent in jets was more dangerous than the even flow from an irrigator.

Recent Progress in Physiology.

BY G. M. GARLAND, M. D.

HEAT OF BODY.

WE recently took occasion to commend Dr. Wood's memoir as a model of skillful physiological investigation, and further study of it only intensifies our admiration of

its merits, and we offer the following imperfect summary of its leading points.

The chief phenomena of fever are capable of being grouped into four sets: acceleration of the heart's beat and disturbance of the circulation; nervous derangement; disturbance of nutrition, including secretion; elevation of bodily temperature. Of these four conditions the only one which seems absolutely essential, and capable of producing the others, is elevation of the bodily temperature, and, therefore, Wood assumes this to be the characteristic feature of fever. By a series of experiments he shows that artificial heating of the body in an oven will produce disturbances of circulation and innervation similar to those present in ordinary fever. Heating of the brain by a hot-water bonnet, or by the sun, will cause symptoms of fever, even convulsions and death. Prolonged artificial heat and continued fever also cause similar nutritive changes in the liver, heart, kidneys and muscles. It appears, therefore, that elevated bodily temperature is not only a constant feature of fever, but it is capable of producing, *de novo*, all the other phenomena specified, and therefore Wood considers that the aphorism of Galen, "*Nam essentia quidem februm est in caloris præternaturem*," is firmly and logically grounded.

The next question which naturally presents itself is in regard to the mechanism by which the production and dissipation of heat are regulated in the animal organism, and the second chapter of the memoir is devoted to the investigation of this point. An attack was made upon the nervous system by a series of sections of the spinal cord at different levels. Cutting the cord in the lower cervical region caused the bodily temperature to fall rapidly, and it remained permanently low until death occurred, provided the temperature of the air surrounding the animal was lower than his own. If the animal, after section, was placed in a hot atmosphere, or was protected by a cotton pack, the primary fall was soon replaced by a rise, and the animal died with his temperature above normal. Careful calorimetric estimations showed that the fall of temperature was mainly due to an increased dissipation of heat, and that this increase was caused by a dilatation of the peripheral capillaries from vaso-motor paralysis, but it was still a question whether this increased dissipation was associated with increased production of

heat. It is evident that there must be an increase of production if the increased dissipation remains permanent, because excessive elimination would soon exhaust the reserve heat of the body, and it could then still continue in excess only by increase of supply. Further investigation revealed that the primary increase was not maintained. And yet there was an evident rise of temperature when the body of the animal was protected from external cold. Wood concludes that section of the cord in the cervical region produces a vaso-motor paralysis and an increased loss of heat. The resulting lowering of the bodily temperature caused a diminished production of heat by checking chemical processes. Where this lowering of bodily temperature is avoided by external warmth there seems to be an increased production of internal heat. The author next desired to further simplify the problem by removing the disturbing influence of the vaso-motor nerves. Of course it is impossible to isolate the vaso-motor fibers in the cord itself, but research has shown that the vaso-motor center from which these nerves arise is situated in the medulla in the floor of the fourth ventricle. Section below this point produces vaso-motor paralysis, while section above the same will leave the peripheral circulation undisturbed. Pursuing this physiological indication, Wood found that section of the medulla below the vaso-motor center produced results similar to those which follow the cutting lower down. Section above the point mentioned, that is, between the medulla and pons, causes an immediate rise of bodily temperature. The amount of heat dissipation is somewhat increased, but the heat production becomes so much greater that a rise of temperature results.

Various explanations have been advanced to account for this rise of temperature after section between pons and medulla. One set of observers think it is due to irritation of vaso-motor centers, that is, to a spasm of the peripheral capillaries. Wood argues strongly against this theory, and thinks that section of a nerve means paralysis, not irritation. He believes there is a center situated in or above the pons, whose function it is to exert a restraining influence upon the nutritive processes in the various tissues of the body: that is, it is an inhibitory center. Section between the pons and medulla destroys the func-

tion of this center; thereby removes the governor, and hence the rise. Elevation of bodily temperature, therefore, according to Wood, is probably due to paralysis of an inhibitory heat center.

It has been pretty clearly established that the thermometer is no measurer of the amount of heat generated in a body, but merely indicates the amount held in reserve at any one time. This reserve amount, moreover, is determined by the play between the functions of heat production and heat dissipation, and hence an elevation of the bodily temperature does not necessarily mean an increase of the chemical movements of the tissues, nor does a low temperature militate against an increased heat production. A dog which is perfectly well and has been fed high will produce more heat units than a dog which is suffering from pyæmia. Yet the fed dog's temperature will be normal, because his heat elimination is equal to the heat production, while the pyæmic dog's temperature is elevated.

The following table of Professor Sanderson shows these peculiarities of heat production in human beings under different conditions:

| | |
|--|----------------|
| Heat production in fever, on fever diet, | 2021 K. units. |
| Heat production in health, on adequate diet, | 2118 K. units. |
| Heat production by excessive diet may reach | 2700 K. units. |

Here it is observed that the amount of heat produced in fever may be less than that produced on ordinary diet, though usually the production of animal heat rises in the febrile state with the temperature and with the stage of fever. In order to understand these points it is necessary to remember that there are two distinct sources of heat in the body, namely, the food which is floating in the blood, and the stored-up material of the various tissues. If the food be excessive then the amount of heat generated becomes increased. If the food be inadequate then the stored-up material suffers. In fever there appears to be an increased tissue metamorphosis combined with inadequate food, so that Wood defines fever as "a complex nutritive disturbance in which there is an excessive production of *such portion of the animal heat as is derived from chemical movements in the accumulated material of the organism*, the overplus being sometimes less, sometimes more, than the loss of heat production resulting from abstinence from food."

With regard to the origin of fever, Wood is a strong advocate of the neurotic theory, although allowing that many fevers are due to some poison circulating in the blood, and that they may be termed hæmic fevers, in so far as they are induced by the injection of such material into the blood, for he thinks the tissue changes which characterize fever are produced, not by the local action of the poison, but by the mediate influence of nerve centers, which in their turn are deranged by the poison. Fever is "simply a state in which a depressing poison or a depressing peripheral irritation acts upon the nervous system which regulates the production and dissipation of animal heat. . . . The so-called inhibitory nervous system is not paralyzed in fever, but is less capable than in health of answering promptly and powerfully to suitable stimuli; in other words it is in a condition of paresis or partial palsy. . . . In fever vaso-motor paralysis, when produced, is followed by an immediate fall of temperature similar to but greater than that which is produced by a like disturbance in health."

Thus we have endeavored, with imperfect success, to point out some of the leading topics which are treated so thoroughly and scientifically in this book. We heartily advise those who are at all interested in this subject to read the memoir itself, and we assure them that they will find the subject presented in a very fascinating manner.

ERUCTATIONS.

Foster says: "In the act of swallowing no inconsiderable quantity of air is carried down into the stomach, entangled in the saliva or in the food. This is returned in eructations. . . . The enormous quantity of gas which is discharged through the mouth in cases of hysterical flatulency, even on a perfectly empty stomach, . . . presents difficulties in the way of explanation; it is possible that it may be simply diffused from the blood." Nearly all other writers who speak of this subject define eructation in a similar way by saying that it is the sonorous emission of flatus from the stomach through the mouth. Dr. Weissgerber has recently published some investigations on this point, which are very interesting. He had under observation, in the medical clinic at Gießen, a man who was endowed with the power of eructation to a remarkable degree. Like the croaking frog of Goltz,

it was only necessary to stroke his abdomen, or to touch any part of his body, in fact, to elicit a belching explosion from his mouth. He looked in perfect health, but his wife thought he had hysteria.

Struck by the apparently inexhaustible supply of gas which the patient had at command, Weissgerber tried to imitate in his own person the movements which the patient made in producing the explosions, and after several days' trial he found that he could likewise produce any number of eructations at will. As the result of his experiments he concludes that eructations should be properly divided into two classes, namely :

(1.) Natural eructations, or those in which gas escapes from the stomach, and is impregnated with the odors of the food ingested.

(2.) Artificial eructations, or those in which air is drawn into the œsophagus and re-expelled without entering the stomach.

The œsophagus forms a tubular bag, which is closed below by the constriction of the cardiac orifice, and above by the pressure of the larynx. In order for air to get in or out of either end of the œsophagus, therefore, a certain amount of force is necessary to overcome the resistances mentioned. This is accomplished in natural eructations by the following agencies:

I. Gas may be expelled from the stomach by simple contraction of that organ during quiet respiration.

II. Gas may be pressed out of stomach and remain in œsophagus until the pressure of the next expiratory contraction of the chest expels it.

III. The muscles of stomach and abdominal walls may act in concert.

IV. Air may be sucked up into the œsophagus from the stomach by the negative pressure which is produced in the œsophagus during the inspiratory enlargement of the chest. Subsequently, the same gas is expelled by the succeeding expiratory contraction of chest.

The artificial eructations are very different from the above, and after a little practice may be called forth at will at any time, in any strength, and with any desired rapidity. They are produced by the alternate admission of air into, and the expulsion of the same out of, the œsophagus, and consist of two easily distinguishable sounds. The first sound is produced by the air as it is

forced into the œsophagus, either by the negative inspiratory force of the chest or by the act of swallowing. Weissgerber says that during this act a strong inspiratory effort is made; the larynx is elevated and the glottis is closed. He affirms that he could never swallow air or force it into his stomach without first filling the œsophagus by an inspiratory effort. We have tested these points on our own throat, however, and find that it is possible to swallow air without an inspiratory suction, and we can feel the air trickle into the stomach after an interval of a few moments, provided we refrain from expelling it upward. Moreover, with the inspiratory method it is not essential for the glottis to be closed, because we can hear air enter the trachea and œsophagus simultaneously.

Sometimes the first sound may be absent, and in those cases Wood thinks that the air is drawn very gently past the larynx without producing any sound.

The mechanism of the second sound is less difficult to understand. It is simply an explosive escape of the air, which is squeezed out of the œsophagus by an increased intra-thoracic pressure. During this stage the glottis is firmly closed, and it is apt to open with a little explosion of its own immediately after the eructation is completed.

In this connection it is interesting to recall an observation made many years ago by Professor Freund in a little treatise upon the relation between pulmonary diseases and primary anomalies of the costal cartilages. He says that the suddenly recurring tympany of hypochondriacs and hysterical persons can scarcely be referred to other causes than to a suddenly-occurring and transient paralysis of the abdominal muscles. The complete odorlessness of the air belched out shows that it is not developed in the bowels. The mechanism of this phenomenon is simple. The relaxed abdominal wall sinks downward and forward by its own weight and that of the inclosed organs. The vacuum thus created in the stomach and intestine is filled by air which enters from the mouth. He adds that one may readily observe people also *swallowing* air involuntarily. This he terms an abdominal inspiration, which, unlike thoracic inspiration, is of a passive (paralytic) nature.

This explanation by Freund of the rapid inflation of the stomach, which is so often seen in hysterical subjects

and in those persons who are slightly nauseated by any cause, seems hardly satisfactory, and we think the condition is better explained by the suggestions of Weissgerber.

Chian Turpentine in Cancer—Report of Three Cases.

BY ENOCH W. KING, M. D., NEW ALBANY, IND.

It was with feelings of regret and disappointment that I read the editorial in the February number of current volume of the *Therapeutic Gazette*, declaring that there is nothing in the high hopes we had builded of curing our cancers by Chian turpentine.

It is possibly true that there is nothing curative in the action of the turpentine, but I think we are perhaps too hasty in rendering our verdict against it, when we remember the ability, veracity and professional standing of Dr. Clay, and the chronic nature of many malignant growths, to say nothing of the possibility of a spurious article having been used in the unfavorable cases. It is not yet twelve months since Dr. Clay's first article appeared, and to pass in judgment upon its merits in a disease which often continues for years in its course, does appear to me rather premature. From my limited experience with the drug in cancer, I can not admit with you that it has even failed to give relief, but I am convinced that if it proves in the future to give the comfort and relief from the distressing pains in cancerous disease that it has in my hands, it will prove to be a great blessing to such sufferers.

In brief I give you my observations with it in three cases, in two of which there is no doubt about the diagnosis.

CASE I.—Mrs. H. T——, æt. 35, without any apparent cause began to have uterine hemorrhage in May, 1880, which lasted during the summer months, quite profuse at times. In July her physician found almost the entire uterine cervix gone, and an ulceration on the left side extending deep into the body of the womb. He pronounced it malignant and gave an unfavorable prognosis. One of the most eminent gynecologists of Louisville, Ky., examined the case and unqualifiedly pronounced it can-

cer. At that time the hemorrhage was continuous and often profuse, the tumor was filling the pelvis and extended two inches above the pubes, especially on the left side. She constantly had both vesical and rectal tenesmus, and was so much exhausted from the pain and hemorrhage that she was unable to sit up out of bed, and had to resort to increasing doses of morphine to give her any relief whatever. She had no appetite and her bowels were very costive. In October she commenced taking the Chian turpentine in pill form as recommended by Dr. Clay, and had taken the medicine only a few days when the hemorrhage became less, the pains milder, and her general system presented a better condition. The pills proving nauseating the emulsion in tragacanth as recommended by Dr. Clay was prescribed, of which she took half ounce every four hours. About this time I took charge of the case. The uterine discharge decreased in quantity and assumed the characters described by Dr. Clay, the pain was less lancinating and not so continuous, and although the rectal and vesical tenesmus continued unchanged, yet she improved in every other respect. About the middle of December our supply became exhausted and we procured an ounce from a different drug house. In a few days from the time she commenced on this bottle she did not feel so well. I took the copies of the *Gazette* for July and August, 1880, containing the tests for the pure Chian to my pharmacist and asked him to test the specimen on hand, which he did, and found it to be, without doubt, largely composed of Canada balsam. He immediately sent direct to Parke, Davis & Co., of Detroit, and received from them a supply which answered to the tests as a pure article; of this the patient commenced taking as above and has continued it uninterruptedly to the present. Her condition is now briefly as follows: The tumor is not quite so large above the pelvic brim and not so tender upon pressure, the vesical or rectal tenesmus is quite constantly present, either one or the other, seldom both at the same time, but in a very mild form compared to what it was in November. There is now a light watery discharge from the vagina—the odor so common in cancer has never been present—and occasionally a little blood will be passed, but she has never had a hemorrhage since she commenced taking the Chian. Her menses came on December 14th, and again

on January 21st, each time lasting about the same length of time as when she was in health, and but slightly more profuse. Her bowels are quite regular, appetite and digestion excellent, and sleep good. She still takes the morphine one-third of a grain at a dose once or twice in the twenty-four hours, when the tenesmus is uncomfortable, and she declares were it not for that suffering she could do very well without it. The local appearances are very much the same as at the first examination, at least there is no extension of the ulcerated surface. She has taken no other medicine nor has she had any local treatment except three light applications of iodized chloral phenol (Formula of J. P. Thomas in *American Practitioner* for May, 1877, page 286); these were not considered beneficial and were discontinued, and a daily washing of the vagina with an infusion of oak bark, quite warm, substituted.

When we consider the rapid and grave symptoms early manifested in this case, that the patient has not been informed of the positive opinion of her physicians that her trouble is malignant, and then witness her improved condition under the Chian turpentine we are forced to the conclusion that the medicine has been efficacious in giving relief, if not a cure, which latter from present appearances is not an impossible thing to hope for.

CASE 2.—Mrs. F——, æt. 58, passed climacteric about 45, and had good health for six years, when she began to have a slight uterine hemorrhage daily, which has continued almost without interruption. She is very much emaciated and a constant sufferer from pains about pelvis and hips; a hard tumor lies above the pelvic brim, the uterine sound passes four inches within cavity and backward, indicating retroversion. She has the cancerous cachexia to a marked degree, and sometimes the vaginal discharge has much the odor characteristic of malignant disease. There is no appearance of cancerous ulceration about the cervix and os. Although she has much the appearance and symptoms of uterine cancer I have never been satisfied that the disease was of that nature, but failing to give her any relief from any medicine that I prescribed, or any treatment instituted, I put her upon the Chian turpentine emulsion, half ounce three times a day. Relief was marked in a few days; the pain and hemorrhage have almost entirely disappeared, her general

condition is much improved, and she is now enjoying better health than for years. I have not recently had an opportunity to make any local examination to ascertain her present condition in that respect. I have repeatedly told her that I could find no cancerous growth about the womb, therefore we can not attribute her improvement to her hopes and faith in the "new cancer cure."

CASE 3.—Mrs. T——, æt. 48, has well-marked scirrhus of the breast which became an open sore last September. The diagnosis is clear. She has taken four bottles of the emulsion with marked relief from pain and considerable diminution of the offensive odor.

I do not claim that I have any reason to hope for a cure in any of these cases except the hope inspired by the success attending the cases reported by Dr. Clay, and the marked mitigation of all the leading and distressing symptoms which has been so clearly shown in each of the cases reported. However I do claim that we should not pronounce judgment too early upon the curative powers of Chian turpentine, and that we should grant a recognition of its virtues in relieving suffering in a condition which nothing else in the pharmacopœia has ever been found to relieve, and I think that several of the reports published other than those of Dr. Clay would justify us in granting this recognition.

I had intended to report my experience at some future time, when the results could be better known, but the editorial referred to prompted me to do so earlier, and to plead that the question may still be held *sub judice*.—*Therapeutic Gazette*.

Annual Meeting of the American Medical Association.

DR. HUNTER MCGUIRE, of Richmond, Chairman of the Section on Surgery, delivered a suggestive address upon "Operative Interference in Gunshot Wounds of the Peritonæum," in which he took advanced ground in favor of interference as opposed to the expectant treatment.

Statistics from the Crimean, the French, and the late civil war in America show that more than nine out of every ten cases of wounds of the belly, opening into the cavity of the peritonæum, perish—no other gunshot wounds being so deadly, not even penetrating and perfor-

ating wounds of the skull. In incised, punctured and gunshot wounds of the peritonæum, the general plan of treatment has been to enjoin absolute rest, give opium to prevent peristaltic action, and encourage the formation of adhesions, in the idle hope of preventing extravasation into the peritoneal cavity.

In the opinion of the writer, when we remember that the alimentary canal is never completely empty, common sense teaches us, when an opening is made in any portion of the peritoneal cavity, that its contents will escape; that there will probably be less resistance to the passage of fæcal matter through the unnatural aperture than along the sides of the canal itself. Gas may first be expelled, separating peritoneal surfaces, and then the fluid or solid contents of the bowel follow. Only one or two exceptions to this rule are reported in the history of the late war between the North and South. But, besides alimentary effusion, blood, air, bile and urine may also be extravasated into the peritoneal cavity. Penetrating wounds of the belly, with fæcal effusion, are rapidly followed by general acute peritonitis; ninety per cent. die, and within forty-eight hours. Does peritonitis from any other cause, as a rule, kill as quickly? In spite of the assertion of Malgaigne and others, that the organs contained in the belly fill the cavity to such repletion that shot wounds of that space without visceral injury are impossible, *post-mortem* examinations and experiments upon dead bodies show that wounds of the peritonæum can be made without injury to the contained viscera. It has fallen to the lot of the writer to witness four such cases. Two occurring in civil life, and being the subjects of legal investigation, careful autopsies were made. Two were soldiers dying from peritonitis, and the autopsies showed no visceral lesion. These four cases coming under the observation of one individual, and having their exact character shown by *post-mortem* examinations, prove that such results are not impossible, and probably not as rare as we have been led to suppose. Those rare cases of recovery from penetrating wounds of the abdomen have induced surgeons to continue the expectant plan of treatment in place of what appears, at first sight, to be a desperate surgical interference. Some of the alleged recoveries may have been wounds of a portion of the large intestine not covered by peritonæum. Recovery, with fæcal fistulæ,

is not uncommon in this case. Others may have been penetrating wounds without visceral injury; others, again, may have been parietal wounds without peritoneal penetration. In connection with the four cases of gunshot wounds of the peritonæum alluded to by the writer, and in which there was no visceral injury, the total absence of shock was remarkable, and no diminution of temperature was present. One of them (a soldier) assured the writer that he did not know that he had been wounded until some time after he had been shot. Another (wounded in a duel) insisted that he was able to stand up and fire at his antagonist again. On the other hand, in all cases with visceral lesions the shock of injury is a prominent symptom. The presence or absence of shock seems to be a diagnostic point of no little value. If to this be added sudden meteorism, the character, extent and direction of the wound, bloody discharges from the bowels or stomach, an almost certain diagnosis by rational symptoms will be reached. In reply to the question, Why are these injuries so fatal? the writer attributes death to some kind of blood-poisoning connected with peritonitis, just as we often see septicæmia associated with peritonitis under other circumstances, notably after parturition and ovariectomy. Dr. McGuire believes that the blood-poisoning after gunshot wounds of the peritonæum is consequent upon the pent-up, sero-fibrinous exudation which traumatic peritonitis invariably produces in abundance, and that if this effusion could be drained off as soon as it is formed, septicæmia might be prevented. In lacerated wounds of the abdominal walls, with exposure of the cavity, protrusion of the contents and the introduction of foreign matter into the cavity are nothing like so mortal.

In all of these cases the nature of the wound prevents union by the first intention, and drainage of abdominal effusions is effected. In the fifty-nine cases of recovery after penetrating wounds of the large intestine fifty-five were perforating wounds, the large aperture of exit being usually on the posterior surface of the body, dependent, and facilitating drainage. In one of the four instances of recovery in simple penetrating shot wound of the large bowel, the edges of the opening in the bowel were fastened to the wound in the abdominal wall, and in this, as well as in the other three cases, fæcal fistulæ were

formed. Shot wounds of the pelvis are nothing like so fatal as wounds of the peritonæum higher up. Unless accompanied by grave visceral lesion, three cases out of four of penetrating or perforating wounds of the pelvis recover. Can this fact be satisfactorily explained upon any other theory than that drainage in these wounds is almost unavoidable? Indeed, in these cases we are taught to explore the wounds with the finger, remove loose pieces of bone and foreign bodies, and keep the aperture of entrance and exit open, that free vent may be given to all inflammatory products; and if the size and position of the wound do not facilitate this we make the opening bigger and insert a drainage tube. Spencer Wells attributes the fatality after ovariectomy to some form of pyæmic fever, or some form of blood-poisoning so often associated with peritonitis, and thinks the lesson taught by many successful ovariectomists of providing for the escape of inflammatory matter of great value, and one which should be recalled by the surgeon who treats gunshot wounds of the peritonæum. Ovariectomists even go so far as to wash out the cavity when peritonitis exists and death from septicæmia is imminent. In many of the cases of penetrating wounds of the peritonæum the ball passes obliquely through the abdominal wall, and the aperture shuts up like a valve, or, if passing directly through the parietes, the aperture of entrance contracts at once and closes. To all intents and purposes the cavity is hermetically sealed, and the missile, pieces of clothing, blood from wounded vessels, fæcal effusion, if the intestine is wounded, and inflammatory products, are all hopelessly imprisoned there. Can it be wondered at that such wounds are fatal? In no other gunshot wounds of cavities do we allow the wound of entrance and exit to be closed. Who would think of shutting up the opening in gunshot wound of the knee-joint? During the late war the plan of hermetically sealing up wounds of the pleura, a structure analogous to the peritonæum, proved most disastrous. In gunshot wounds of the chest, involving the serous membrane, we keep the wound patent, and, if not dependent, we do not hesitate, when effusion takes place, to make a counter-opening with a knife or trocar, and sometimes to flush out the cavity with detergent and antiseptic lotions. In view of these facts the writer ventures to advocate operative interference in gunshot

penetrating wounds of the peritonæum, with intestinal injury, in penetrating wounds of the peritonæum with any visceral lesion, and in similar cases without visceral injury. The wounds in the abdominal walls should be enlarged, or the linea alba opened freely enough to allow a thorough inspection of the injured parts. Hemorrhage should be arrested. If intestinal wounds exist, they should be closed with animal ligatures, trimming their edges first if they are lacerated and ragged. Blood and all other extraneous matter should be carefully removed, and then provision made for drainage. If the wound of entrance is dependent, drainage may be secured by keeping this open. If the wound is a perforating one, and the aperture of exit dependent, the patency of this should be maintained, and, if necessary, a drainage tube of glass or other material introduced; if there is no wound of exit, and the wound of entrance is not dependent, then a dependent counter-opening should be made and kept open with a drainage tube. If it is urged that the means suggested are desperate, it can be said in reply that the evil is desperate enough to justify the means.

Physical Conditions Simulating Organic Disease of the Heart.

CHARLES JAMES FOX, M. D., WILLIMANTIC, CONN.

FROM an extended observation of a number of years, I am clearly of the opinion that the presence or absence of structural changes in the heart walls are of the highest importance to every conscientious practitioner. I propose to present a series of conclusions as they have been presented to my mind from time to time, which in a vast majority of cases closely simulate, and are thus mistaken for organic disease of the heart walls, especially fatty degeneration.

Fatty degeneration means molecular decay of the muscular fibrillæ, and is found where a history of hypertrophy with atheromatous arteries has existed for a long period of time—and especially in diseases of the coronary vessels. The diagnostic indications of fatty degeneration are collated from the most able writers, whose observation can not be called in question, and present conclusions

as follows: Evidence of partial failure of the circulation under the form of weak and irregular, or very tardy action of the heart and pulse; præcordial oppression or pain of an intermittent character, often observable; extending down the left arm as far as the elbow; palpitation on making unusual physical or mental effort; pallor of surface, recurrent syncope, etc. The physical signs presented, are alteration of the first sound of the heart, which is short and faint, with a restriction of these sounds to a limited area, and the extreme feeble character, or the entire absence of the impulse. These are the subjective and objective phenomena exhibited in structural decay of the walls of the heart. But the physical signs are the main guides to the practitioner. We know that the heart is much weakened in relapsing and puerperal fever, in fact, wherever high temperature is maintained for a long time, then acute fatty degeneration is found. I have seen some cases in hospital practice, where patients were recovering from such fevers, die suddenly from failure of heart power; hence heart structures are liable to be degenerate, in acute diseases, and they recover as fast as general convalescence progresses. I have noticed in woman at the change of life, a condition closely simulating fatty degeneration, and demonstrated by the following typical case: Mrs. A., stout, and nervous temperament, with white and œdematous hands, complains of shortness of breath on exertion, with dyspnœa at night, with inability to sleep with head low; physical examination reveals almost entire absence of heart impulse—pulse feeble and compressible, sounds weak and distant, with palpitation, especially during the night, with a feeling at times as though the heart had stopped; the latter symptom always causes acute alarm—appetite defective, bowels constipated, with accumulation of gas in the transverse colon, frequently causing displacement of the heart—she complains of frequent syncope. In the vast majority of cases like these the ill-health of the menopause passes away in time, and a general improvement is manifest under judicious medication; indeed, the entire vascular system once more is free from the perturbations it was subject to from time to time, which were so alarming and suggestive of organic disease.

I have seen cases of cardiac asthenia that closely present physical symptoms indicative of fatty degeneration.

Several years ago a gentleman of sedentary labor of a prolonged character, presented himself with the following symptoms: Intense dyspnœa, especially on walking and after eating; he was of a gouty diathesis. Physical examination revealed faint and feeble heart sounds, with no visible feeling of an impulse, his pulse was considerably exaggerated by atheromatous vessels; the diagnosis had been made by several former physicians of fatty degeneration, yet after examining him I felt great doubts as to fatty decay being present. In addition to a condition of asthenia his habits confined him to only a few hours sleep each night. I advised at once more exercise and regular sleep, with proper medication. In a short time his disagreeable symptoms had disappeared, and to-day he is as well as a man of fifty-five can well be. I know it might be maintained by some that some fatty change might have been present, and removed after a course of treatment. That raises the query whether or no a certain amount of molecular decay where the muscular fibrillæ of the heart walls are converted into fat, the result of imperfect oxidation, may not be recovered from, and thus by increasing the oxidation the fatty debris is removed, etc. This may be so, but as yet no evidence sufficient to establish reliable facts on the subject has ever been presented. It must always remain doubtful as to whether or not a certain amount of tissue degeneration may not be compatible with repair; suffice it to say in closing that it is the general features of each case rather than the physical signs which must determine actual organic disease of the heart, or merely a condition closely simulating it.—*Indiana Med. Reporter.*

MICROSCOPY.

Proceedings of the Royal Microscopical Society.

MR. CRISP said that in the discussion on aperture, at the last meeting, he had confined himself to pointing out that the photometrical test on which the aperture question had then been rested, was founded on an entire mistake, for even assuming for the sake of argument that such a test could properly be applied in the way and to the extent pro-

pounded, the conclusion drawn was vitiated by the fact that the radiation of light in air, water and oil, was not identical, as supposed, but varied as the squares of the refractive indices.

It would, however, he thought, be advisable (having regard to the reappearance at that meeting of some of the old fallacies which it was supposed had died out) to have in the *Journal* a statement of the leading points of the aperture question, not restricted to one aspect only, but dealing with it in *all* its aspects.

With this view he had prepared some notes, which would appear in the next *Journal* (see p. 303), and he now laid before the Society an enlarged copy of the diagram which accompanied the demonstration that no dry objective *could* have so large an aperture as an immersion objective of balsam-angle exceeding 82° . In the face of this demonstration it was impossible to accept the invitations that were at times made to see the apertures of objectives measured. As well might they assist at a measurement of the three squares on the sides of a right-angled triangle in support of the view that the large square was *not* equal to the two smaller ones, in lieu of referring the demonstrator to the 47th Prop. of the 1st Book of Euclid.

With the diagram he also presented two glass "models" illustrating the "hemisphere puzzle," in remembrance of the most curious error that had ever puzzled theoretical or practical microscopists. It would be plainly seen that the hemispheres *did* magnify exactly $\frac{3}{2}$ times, and that the smaller one converted an inch objective into a $\frac{2}{3}$ inch, the latter utilizing, however, the same large diameter of the back lens as the lower-power 1 inch.

Prof. Abbe's note on a fluid for homogeneous immersion was read by Mr. Stephenson, who said he had just received a letter from Prof. Abbe, informing him that his assistant, Dr. Riedel, had lately found two fluids suitable for homogeneous immersion objectives.

(1) The first is a solution of gum *dammar*, dissolved in hot oil of cedar-wood. The oil, which is obtainable in Germany, has a refractive index of 1.51 *only*, but by the dammar this can be raised to 1.54. This solution is, however, rather highly colored, and, of course, somewhat sticky. But if it is *carefully distilled*, it becomes sufficiently pale and loses its stickiness. It appears that the

distillation causes a certain molecular change or *decomposition* of the resin, by which its stickiness is destroyed. By diluting the strong solution (which contains a small portion only of the resin) with pure cedar-oil, every index from 1.51 to 1.53 can readily be obtained. Prof. Abbe takes 1.52 *exactly* as his standard, at a temperature of 18° Cent. It is *unchangeable*, and, like pure cedar-oil, does not act upon sealing-wax, or shellac, varnish.

A very important point, to which he (Mr. Stephenson) had previously referred in that room, is the necessity of determining the *dispersive* power of all fluids used for this purpose; and with respect to this, Prof. Abbe remarks that, although resins might be used in a similar way, all those which he has tried give *too large an increase of dispersive power*, which is not the case with *dammar*, and consequently the new fluid described by him is in every respect *very near* to fluid crown.

(2) The other medium is a solution of *iodate of zinc* in Price's ordinary glycerin ($n = 1.46$). This salt is *very* soluble in glycerin, and a refractive index of 1.56 or more can be readily obtained, and there is, therefore, no difficulty in making a solution of 1.52, which is the standard index at 18° Cent. Like glycerin, it is, of course, hygroscopic, and its use, therefore, requires some care; at the same time, Prof. Abbe states that it is as inaggressive as the solution of sulpho-carbolate of zinc or of chlorate of cadmium, while it is far less sticky; provided the refractive index has really been raised to 1.52 only. Its dispersive power is slightly in excess of the solution of *dammar* in cedar-oil. (Samples of the new fluids were exhibited).

Prof. Abbe has furnished Mr. Zeiss with a new formula for homogeneous one-eighths having a numerical aperture of 1.40 and adjusted for the new fluids.

Mr. John Mayal, Jr., said that at the December meeting he exhibited a stage constructed by Mr. Tolles, which he then stated to be the thinnest that had been made (see p. 115). It appeared, however, that Messrs. Watson had, quite independently of Mr. Tolles, made a stage of a similar kind, which he now exhibited. The stage was thinner than that of Mr. Tolles, so that it appeared to be really the thinnest mechanical stage yet made (see p. 300).

Mr. T. Charters White said he had often thought that for the study of insect anatomy it would be a great ad-

vantage if they could get some kind of reagent which would render the chitinous envelope transparent; and he was at first rejoiced to hear that carbolic acid would produce this result. He was, however, disappointed to find in practice that while it rendered the chitinous envelope transparent, it also made the internal organs equally so. This was so serious an objection that he had resolved to try and work out the subject during the summer, with the idea of finding something else which might not be open to the same objection. He mentioned the subject now, in the hope that other Fellows would co-operate.

Dr. Matthews said he had tried carbolic acid, but the experiments which he had made were not so successful as to induce him to use it again. He produced a slide of a whole spider which had been prepared in carbolic acid. When taken out it was nearly transparent, and apparently in a very favorable condition for mounting; but it would be seen that the whole of the abdomen had collapsed, a circumstance which he could only account for by supposing that the balsam and the carbolic acid had entirely changed places. This specimen was mounted in undiluted balsam, and he had tried since to mount others in various solutions of balsam, in benzole, ether and chloroform, and had also tried common pine resin in copaiba, but all had failed in consequence of this apparent endosmose; and he was quite at a loss what to try next. He should mention that when first mounted the spider was perfect, and all that could be wished but the next morning it was found in its present condition.

Mr. Stewart said he was without special experience in the matter, but should like to know whether the object was made clean by the simple extraction of the watery contents, or whether there was any kind of bleaching action about it?

Dr. Matthews said he had not yet established the fact that it had a bleaching effect, but he suspected that such was the case. He regretted very much that a process which seemed to promise so well at first, should so entirely fail on account of want of balance between the fluids.

Mr. White said he could quite corroborate what Dr. Matthews had said with regard to objects mounted in the way he had described, but so far as he had been able to judge,

he concluded that the action of carbolic acid was not of a bleaching character.

Mr. Stewart mentioned that objects kept for some time in oil of cloves were exceedingly prone to bleach, and suggested that this might also be an effect of long exposure to carbolic acid.

GLEANINGS.

THE KNEELING POSTURE IN PARTURITION.—Dr. Boardman Reed, in the *Medical and Surgical Reporter*, advocates the excellence of this posture in labor. He says:

“I have become convinced of the peculiar efficiency, in many cases, of the kneeling posture. It may not be *secundum artem*, but it is *secundum naturam*, and may even be claimed to be scientific. When a woman lies on her side, the parturient forces must not only overcome the resistance offered by the rigidity and resiliency of the the structures through which the fetus must pass, but to some extent overcome also the force of gravity represented by the weight of the fetus. When she is upon her knees, with her body nearly upright, this force of gravity directly assists the expulsive powers, acting thus as a *vis a fronte*.

Manifestly it may make quite a difference in the duration of labor, whether a twelve-pound child has to be partly lifted upward as well as forced outward, or brings its weight to bear as an auxiliary expulsive force.

I not only permit women to kneel when they prefer to do so, but often advise the kneeling posture to be temporarily assumed, either on the bed or by its side, when the head is arrested by faulty presentation or failure to rotate. Often the change to this position has so modified the presentation, stimulated contractions and facilitated descent—then truly a descent—that the necessity of instrumental interference has been obviated.

The women who adopt it usually wear a loose gown while kneeling, and keep a vessel underneath to catch all discharges. When the placenta comes, it is deposited in this same receptacle, and the new mother—her clothes having been changed—is placed in a perfectly clean and dry bed.

THE use of the catheter instead of tracheotomy in croup or œdema glottidis, has been recommended in several quarters. Dr. J. Wilson Paton, of Rockferry, England, relates in the *British Medical Journal* a case where this method was successfully employed. A child, aged three years and ten months, was attacked with croup, following measles. The symptoms of obstruction of the larynx gradually increased in severity. Dr. Paton was at last called in at 1.30 A. M., and found the patient suffering from intense dyspnœa, quite unable to speak, and the lips and face cyanosed. The respirations were 37 per minute; pulse, 144 and very weak. It was evident that the child could not live long unless it got some relief. A No. 11 gum-elastic catheter was very easily passed through the larynx into the trachea. The child made violent struggles to expel the tube, the face becoming livid and the eyes staring. In a minute or two the struggles ceased, and inspirations, partly through the tube, and partly through the larynx, were made. Considerable blood and mucus were ejected through the tube and mouth. After a time the cyanosis and dyspnœa lessened, the child lay quiet, and was able to swallow milk. Cough continued at intervals of ten minutes, about as before. The tube was removed at the end of eleven hours. Shortly after this symptoms of obstruction appeared again, and a No. 12 catheter was introduced, this time with very little struggle following. In the course of a few hours respiration and pulse became lower, and dyspnœa ceased. The tube was kept in for forty-eight and one-half hours, and was not inserted again. The child made a rapid recovery. Dr. Paton thinks it would certainly have died had it not been for the use of the catheter.

ORCHITIS IN MUMPS.—Dr. F. Murphy, of St. Albans, Vt., writes: "There seems to be some difference of opinion as to the frequency of the occurrence of orchitis as a complication in cases of mumps.

"In an experience of more than thirty years' active village and country practice, it has occurred that, in a particular neighborhood, there would be thirty, forty or fifty cases of mumps without any complication whatever, and the same season, in another locality, one-half or one-third of all those attacked would suffer from complications—mammary in the female, orchitis in the male.

"This spring, in an epidemic here, in some thirty-seven cases that came under my notice, there were five cases of orchitis, and three of mammary trouble.

"In patients otherwise healthy, orchitis or mammary affections, occurring as a complication of mumps, have never been difficult to treat, or followed by serious consequences.

"I do not recollect now, and, on turning to my notes, do not find a single case of either complication, where gross imprudence on the part of the patient was not the cause."

THERAPEUTICAL EFFECTS OF OXYGEN.—M. E. Hagen, in a report to the Academy of Sciences, gives some facts regarding the physiological and therapeutical effects of oxygen. It is taken in doses of forty to ninety litres per day, in two doses, and mixed with a very small amount of air. It augments the appetite, slightly elevates the temperature, accelerates the circulation, temporarily increases the red corpuscles and the hæmoglobin in the blood, and increases the weight of the body. It stimulates the nutritive movement of the tissues, and increases thereby the excretion of the urea. In *chlorosis* it is a useful adjunct to iron. It stands in acts much in the same way that hydrotherapy does. In *vomiting* it is especially valuable. After one or two inhalations, vomiting will generally stop permanently, if it be not due to organic disease. Vomiting is relieved by oxygen when due to painful dyspepsia, dyspepsia with dilatation, vomiting of pregnancy and of uræmia.

BOOK NOTICES.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By William A. Hammond, M. D., Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the City of New York. With 112 Illustrations. Seventh Edition, Rewritten, Enlarged and Improved. 8vo. Pp. 929. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

This excellent standard work on Diseases of the Nervous System was first published in 1871. Since that time seven editions of it have been issued, which fact is cer-

tainly the very strongest evidence that the work is highly appreciated by the profession.

The author claims for the work that it rests, for a great extent, on his own observations and experience, and, consequently, is no mere compilation. The reader, he states, will perceive that he has views of his own on every disease considered, and that he has not hesitated to express them.

Prof. Hammond has, for a long time, devoted much study to diseases of the nervous system, and has contributed a great deal to the literature of the subject. His opportunities for experience in treating these affections have been very great, indeed—such, indeed, as very few possess—and, consequently, he has collected together a vast amount of valuable information to make his work the medium of communicating. An Italian translation of the work is now going through the press.

There is no class of diseases that presents so much of interest in them as diseases of the nervous system. The nervous system raises the animal above the vegetable, and the increased development of the cerebrum makes the difference between man and the brute. To it are due all mental operations and all manifestations of the feelings and will. When it is disordered, according as is the nature of the pathological conditions under the circumstances, there are paralyses to a greater or less degree, lessened or increased sensations, disturbed mental action, etc. Diseased conditions of it derange the highest functions of life; and as these are important above those that are subordinate, so the affections from which they result assume an interest proportionate. Text-books upon the practice of medicine embrace in their consideration diseases of the nervous system, but a class of diseases so extensive and involving so much complexity, can not receive the attention due them, even in the largest works. Common as are these diseases, every practitioner needs a work devoted especially to them, wherein their etiology and pathology, as in Prof. Hammond's work, is set forth as far as known.

Prof. Hammond, in a most interesting manner, describes the various phenomena of nervous diseases. Throughout the work he illustrates his descriptions by detailing cases which have come under his observation, and by this mode makes it more easy for the student to make out a diag-

nosis himself when a case is brought to him for examination. Not a few of the diseases of the nervous system, at their outset, have no little obscurity attending them, from a want of definite symptoms of a pathognomonic character; but a thorough study of Prof. H.'s work will aid much in resolving complexities and determining unmistakably the character of a disease at an early period.

Our friends may feel assured that it will well repay them to have the work on their library shelves for consultation. It will both increase their knowledge of diseases of the nervous system, and increase their confidence in their treatment.

A TEXT-BOOK OF PRACTICAL MEDICINE, WITH PARTICULAR REFERENCE TO PHYSIOLOGY AND PATHOLOGICAL ANATOMY. By Dr. Felix Von Niemeyer, Professor of Pathology and Therapeutics in University of Tübingen, etc. Translated from the Eighth German Edition, by special permission of the author. By George L. Humphrey, M. D., and Charles E. Hackley, M. D. Revised Edition. In two volumes, octavo, of about 800 pages each. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

We have before noticed in terms of commendation this work or practice of one of the most learned physicians of the present time, Felix Von Niemeyer. Since its first publication, it has passed through nine editions in Germany, one of them being since the death of Niemeyer.

A peculiarity of our German brethren, in the practices which they write, is the attention given to pathology and therapeutics in describing diseases and their treatment. They, more than the medical men of other countries, seem to endeavor to reduce the treating of disease to a science. And it may be on this account that, while all ascribe to them the praise of excelling in their knowledge of physiology, etiology of diseases, pathology, diagnosis, etc., it is intimated that they are inferior practitioners—probably because they are disposed to ignore experience and empiricism generally, and to rely on a rational mode. The practice of Niemeyer forms no exception in the characteristic of similar works by medical writers of his nationality. It is written with special reference to physiology, pathology and medicine as a science. While physicians of this country in studying the work will miss the

usual references to experience and quotations of authorities in treatment, they will be interested and will find much of value by the suggestions of combating disease on principles based upon scientific means—by studying and applying therapeutics to all that we know in regard to disease.

An American physician should not use the practice of Niemeyer to the exclusion of one by an American, but the study of the two will increase his knowledge not a little, and certainly make him more competent to discharge his duties to his patients.

The American editors have made considerable additions in the way of making it more acceptable to the profession of this country. We have no doubt but there will be a large demand for the new edition.

MEDICAL ELECTRICITY: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL.D., Professor in Jefferson Medical College, etc. With 96 Illustrations. 8vo. Pp. 262. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: R. Clarke & Co.

We know of no one as competent, or more so, to write a work on the therapeutical properties of electricity as Prof. Bartholow. For a number of years, while living neighbor to him, we saw how well prepared he was with electrical apparatus of every kind—old and new, embracing in the latter every recent invention and improvement that had been suggested in any part of the world—and observed the deep interest he took in their study. Every phenomenon received his close attention, and was recorded for future reference. With a practice, therefore, equaled by that of but few physicians, and possessed of a mind trained to accurate reasoning, his qualifications to instruct others are certainly of the highest order and can not be gainsaid. Unless it can be shown that in the applications of electricity to medicine and surgery, that knowledge had been brought to perfection previous to his commencing to write his work—that all had been said that could be said, and the subject was exhausted—there is no one more suited than he to put forth a new work upon the subject.

The work of Prof. B., besides its value in recording his own extensive experience and observation on the thera-

peutical properties of electricity, is especially adapted to the wants of medical students and many practitioners of medicine. While not too voluminous, or too scientific, it is not wanting in fullness and accuracy. It contains just what one needs who is not at all acquainted with the subject. We recommend it to our friends, confident that they will find it of great practical value.

A TREATISE ON THE CONTINUED FEVERS. By James C. Wilson, M. D., Physician to the Philadelphia Hospital, and to the Hospital of Jefferson Medical College. With an Introductory. By J. M. Da Costa, M. D., Professor of the Practice of Medicine at the Jefferson Medical College. 8vo. Pp. 365. New York: William Wood & Co. Cincinnati: H. Stacy & Co. 1881.

This work is one of the series of volumes of "Wood's Library of Standard Medical Authors," of which we have made mention very many times. The Library, we hear, is meeting with great success; and the fact that it is being continued is evidence of it. The low rate at which individual works come at, when the whole twelve of a year's series is subscribed for, tends much to make each year's Library popular.

The volume before us is one of great value indeed. There is no class of diseases in which an American physician takes so great interest in as fevers. They are prevailing in one form or another at all times, and compose no small part of his practice. What disease is more frequently met with than typhoid fever? In both city and country it is the commonest of affections, and plays no small part in increasing the mortality.

The various fevers treated in the work are described at greater fullness than is usual in the text-books, yet without the extreme elaboration that mars the usefulness of some of the special treatises. Considerable attention has been given to the subject of the special causes of particular diseases, as well as to their clinical phenomena and their anatomical lesions. Every physician engaged in general practice will find the work a very valuable one. Considering how much has been written on fevers, it might occur to many that there was nothing contained in the work that has not been written before many times. But we can assure our readers that the author, by his

close study of the pathology of the various affections, and his attentive observations, has been able to present a very great deal that will be found valuable, and will assist no little in the intelligent treatment of these fevers. We will mention, however, that our knowledge of any of the diseases is not by any means on the standstill, but new facts are being brought to light every day. Our knowledge of the various fevers is far in advance of what it was ten years ago.

A MEDICAL FORMULARY BASED ON THE UNITED STATES AND BRITISH PHARMACOPEIAS, TOGETHER WITH NUMEROUS FRENCH, GERMAN AND UNOFFICIAL PREPARATIONS. By Lawrence Johnson, A. M., M. D., Lecturer in the University of the City of New York. 8vo. Pp. 402. New York: Wm. Wood & Co. Cincinnati: H. Stacy.

This work is the May number, of the present year, of "Wood's Library of Standard Medical Authors." The design of it is to present, in a manner convenient for ready reference, the drugs and preparations in common use, together with formulæ illustrating the manner in which they are combined by good practitioners of the present day. Nearly all the drugs of the U. S. Pharmacopœia are briefly mentioned, together with many of the English, German and French Pharmacopœias. The doses of drugs are given, and it is described how they are administered. The official preparations of all are stated, and explained how they are made. The work answers all the purposes of a dispensatory, at far less cost, when subscribed for with its companion volumes. Physicians subscribing for Wood's Library, those that have already been issued, and those that will be issued in the future, will very soon have a large library of indispensable works, at a cost of only about a fourth of what has usually been paid heretofore.

ANATOMICAL STUDIES UPON BRAINS OF CRIMINALS. A Contribution to Anthropology, Medicine, Jurisprudence and Psychology. By Moriz Benedikt, Professor at Vienna. Translated from the German by E. P. Fowler, M. D. 8vo. Pp. 185. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

This work is illustrated by many cuts of brains of criminals. We hope to give it more attention at another time.

Our time has been too much occupied to examine it in order to ascertain its scope; but it would seem, from a hurried glance through it, that its object is to show a similarity in the brains of criminals. The author, while he does not seem to be exactly a disciple of Gall, yet he appears to approve of much of his doctrine in regard to considering that the character of the individual depends upon the character of the brain to a considerable extent.

EDITORIAL..

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

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We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

DECEASE OF DR. TOWNSHEND THACKER.—The many friends of Dr. Townshend Thacker, of Goshen, Clermont Co., Ohio, will learn with sorrow of his death, which occurred at his residence, April 19th, at 4 o'clock A. M.

Dr. Thacker was born near Goshen, December 4, 1819. After obtaining what education could be had in the common schools of those days, he entered the Seminary of Rev. L. G. Gaines, near Goshen, and continued his

studies in it until he had completed the curriculum which it afforded. The Seminary of Rev. Gaines had quite a wide celebrity, as a great many still living will attest, for the opportunities afforded for a classical education. Many are the Presbyterian ministers, physicians, and lawyers who received their education there, although it was held in a log-house, surrounded by a clump of trees. Its students came from all parts of the United States, and although many years have elapsed since the old log-house was torn down, and many of its students, along with the venerable principal, have departed from this life, yet there is scarcely a State in the Union, especially in the North, that some of its graduates are not living, and are prominent and distinguished men. We well remember the high old desk built along three of its side walls, and the benches without backs standing on the floor with wooden pins. On the desks were strewn thick Adams' Latin Grammars, Greek Grammars, Ainsworth's Latin Dictionaries, with Greek Dictionaries, Cæsars, Virgils, Horaces, Xenophons, Greek Testaments, Herodotus, Liviiys, Homers, Platos, etc. Although astronomy and all the higher mathematics were taught, yet the school was chiefly celebrated as a classical school, for the reverend principal seemed to regard learning as consisting in a knowledge of the classics, and though an individual might be proficient in all other departments of education, yet if he was ignorant of Latin and Greek, he did not regard him as having any claim to learning. If he found a boy not taking kindly to his Latin and Greek Grammars, the vigorous application of a not very small limb of a tree to his body, would generally rapidly develop a taste for their study. And the same application assisted him greatly in construing crooked sentences in Virgil, Horace, and Homer.

Although the deceased was very considerably the senior of the writer, yet he can very well recollect the high standing he obtained for his remarkable progress in his classical studies. The text-books in Latin and Greek seemed to present no difficulties to him. Pages would be read by him while others would be laboriously translating a few lines. None of his class could keep pace with him. We remember once of his remaining home a year to enable his class to catch up with him, but when he returned to school the following year, he was as far in advance as

before. He exhibited the same aptitude in acquiring modern languages, and there is doubt but that if he had given special attention to the study of languages, he would have attained to great eminence as a linguist. But while he manifested unusual talent as a classical scholar, his acquirements were large in other branches of education. Although he never entered one of the literary colleges and received the honors of a degree in letters, he was justly regarded a highly cultivated, educated gentleman.

After completing his education at the Seminary of Rev. Mr. Gaines, he commenced the study of medicine with his uncle, Dr. Isaac Thacker, still living, who studied medicine with Dr. John Thacker, the father of the editor of this journal. He continued his studies with him a number of years, and, after attending a course of lectures at the Medical College of Ohio, he married a Miss R. Scott, and entered on the practice of medicine by himself at the village of New Boston, Clermont County. He practiced very successfully, acquiring a large patronage, until the fall of 1849, when he attended another course of lectures, and graduated March 5, 1850. While attending lectures he was held in high esteem both by the Faculty and his fellow-students. In those days there was not the competition in medical colleges that now exists, and graduation counted for far more than now. The names of the following distinguished men are on his diploma: Drs. John Locke, L. M. Lawson, Geo. W. Bayless, M. B. Wright, Daniel Drake, R. D. Mussey. His thesis was on spinal irritation. We regret that it is not convenient to obtain a copy of it for publication, for he had given the subject much attention, and had had very considerable experience in its treatment. We have no doubt but that it contained many facts valuable and conclusions.

After graduating, he removed to the village of Goshen, at the solicitation of many friends, in consequence of an eminent physician, who had been practicing there for many years, retiring from business, and leaving a vacancy which it was highly desirable should be filled by one of known ability. In this pleasant village, and over the magnificent country surrounding it, he practiced his profession most acceptably to his patrons, having acquired a very large practice, until struck down by the fatal illness which terminated his existence—contracting the disease from which he died from exposure while attending upon

his patients. So that he was a victim to the humane duties of a most humane calling. If he had been less mindful of the sufferings of others, he would undoubtedly have been alive to-day in the enjoyment of vigorous health, for he possessed a vigorous constitution.

His disease was pneumonia. For a number of days after the onset of the malady, he continued to visit patients, in consequence of importunities for his services, and caught additional cold, the weather being exceedingly inclement. He was sick about two weeks before his decease. His wife, who had been an invalid for a long time, died in the course of three or four days after his decease. Thus, without scarcely any warning, has a family been broken up, which, just before, had every prospect of continuing many years.

The practice of Dr. Thacker, as we have intimated, for many years, was a very large one. He was a successful and popular practitioner, and his practice included many of the best and wealthiest families of the place where he practiced. If amassing wealth had been at all an element in practicing his profession, he would have been a man of wealth at the time of his death. Enforcing prompt payment from all—poor and rich—as a lawyer would do, and others of other callings, and even some physicians, and profitably investing it, he would have been the possessor of thousands to leave to his children. But, instead of being a rich man, he was a poor man, and has left but very little behind. He gave his services freely to the poor. In many instances not only presenting merely a small bill, but charging nothing at all. As a member of a church he always contributed beyond what was his proportion in comparison with others, as his denomination, where he resided, was weak. Besides, in all undertakings of a charitable or humane character he always took an active part, and freely gave of his means. No man who regards money as he did, as not having any value in itself, but only a means for doing good, can ever become rich. For as fast as it is made it will be expended, not, however, to secure sensual enjoyments for himself, but to benefit those around him—to give to those to whom to give is to give to his Master.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—Our readers are aware that this organization will

meet in Cincinnati the coming August. The meeting will begin August 17, and continue one week. The sessions will be held in the Music Hall and Exposition buildings on Elm Street. Several hundred members are expected to be present, and active arrangements are being made to receive and entertain them. On no previous occasion will there ever have been so many men of distinguished learning and scientific attainments as we will then have in our midst.

The offices of the Permanent and Local Secretaries, Reporters' Room, Post-office and Reception Rooms will all be on the first floor of the Music Hall. Between the morning and afternoon sessions a daily lunch will be served in the wing of the Exposition buildings known as Horticultural Hall. In the evening of the first day there will be a citizens' reception.

Beginning on the evening of August 16, and continuing through the meetings of the Association, there will be an exhibition of scientific apparatus, appliances and collections. This exhibition will be in charge of the Department of Science and Arts of the Ohio' Mechanic's Institute, and a large amount of valuable material will be shown. Some of the leading dealers in chemicals, apparatus, microscopes, minerals and zoological specimens have already notified the special committee of their intention to exhibit. The goods here displayed are to be kept over for the Ninth Cincinnati Industrial Exposition, opening September 7, the managers of which have offered special premiums for this class of exhibits.

An Executive Committee of eleven gentlemen of this city have all things in charge pertaining to the meeting here. The Chairman of the Committee is A. T. Goshorn; the Secretaries are F. W. Clarke and Ormond Stone; the Treasurer is Julius Dexter. Besides the Executive Committee, there is a Reception Committee, which, from the space occupied by the names of those in print composing it, we would suppose, has near two hundred on it of ladies and gentlemen.

COMMENCEMENT EXERCISES OF THE CINCINNATI LAW SCHOOL.
—We had the pleasure, a few weeks ago, of attending the *Commencement Exercises of the Cincinnati Law School*, and witnessing the graduation of some sixty or seventy young men as attorneys.

Judge Rufus Ranney, of Cleveland, formerly Chief-Justice of the Supreme Court of Ohio, delivered a quite interesting address to the class. The Judge evidently is not accustomed to address popular assemblies. He is, no doubt, more at home before a jury, unravelling legal intricacies, than behind a desk, on a platform, with a popular audience before him. Nevertheless, he advanced many interesting points calculated to awaken thought in the minds of those hearing him. He showed that jurisprudence involves, at this time, far more than it did but comparatively a few years ago. The lawyer must know something of the natural sciences; and every year is there an increasing necessity for a more and more extensive knowledge of them. Telegraphy is involved so much in the business of the country, and such a vast capital has become invested in telegraph lines, that the lawyer can not well get along without a knowledge of electricity and the laws and phenomena pertaining, in order to intelligently manage the litigation arising from it. Also, it is becoming so common nowadays in making of wills and in criminal acts to set up pleas of insanity and irresponsibility, that a knowledge of mental science is essential to the pleader. Chemistry, too, has to do with so many things—adulterations of foods, of drugs, of minerals, and of a thousand things, having been reduced to a science, as it were, and increased fraud so greatly—that an attorney must be instructed in the mysteries of the laboratory in order to discharge his duties. Some, he said, might say, that experts could be called upon, but who is to examine the expert, and, besides, experts often greatly differ, and, when they do, who is to settle their differences?

The worthy Judge proceeded to speak of the great usefulness of the profession of law. While we do not dispute that the attorney may often render inestimable service to an honest man to secure his rights, and often be of great use, yet we could never understand how the profession can be regarded as a useful one in a general sense. If an attorney only assisted the party whose case he regarded as a just one, then the profession might be considered a useful one. But such is not the case, for he hires himself as readily to the scoundrel as to the honest man, and labors as hard for him. Every day is he seen using his talents and learning to prevent an honest man

from obtaining his just due, and, if he succeeds, he gloats over it with as much pleasure as he would experience if he had at length obtained a recognition of rights that had long been denied. We find him taking every advantage of a technicality and insisting upon its enforcement, although he well knows that by so doing the opposite party is grievously wronged. If, in defending a criminal, he labored to the end that the criminal should not be misrepresented, and his offense not made greater than it really was, and that he should have all the benefit of extenuating circumstances, and in no wise made a victim of prejudice, we would unhesitatingly pronounce his work righteous, but such is never the case. The criminal's attorney is always found, except in cases where he knows that the proof against him is so overwhelming that it can not be controverted, and, under the circumstances, he advises a plea of guilty as a means of mercy, exerting every power to get him acquitted and turned loose upon society, although he knows that by so doing society will be greatly injured, even the murder of more or less persons be the result. Can a profession whose members do such things be regarded a useful profession? We can not see how.

We have heard of attorneys, in times past, who, when called upon to make use of their professional knowledge and skill in behalf of some one, would first investigate the justness of the case of those proposing to employ them, and, if found not just, would refuse their services, however large might have been the fee offered. But where is the lawyer that does that in these days? We fear that if any one now would adopt such a rule of professional conduct that his confreres would regard him insane.

Under the circumstances, then, that attorneys bid for clients without reference to their causes being just or unjust, what must naturally be the result, taking other conduct in other directions as a criterion to form a judgment? Why, that they will be far more instrumental in doing harm than good; that where the latter is a consequence once, the former follows a half dozen times. While occasionally one of them may be on the side of right and justice, very often will he be the means of oppression and wrong. As the rich man is the more able to employ the highest legal talent, as it is called (often it is the greatest cunning and shrewdness in putting ob-

stacles in the way of justice ; for it can not be said that law has any science in it, and the philosopher generally would make a poor advocate), the poor man, who needs the most assistance, and to assist him is the greatest merit according to the religion of the Bible, stands the least chance to receive assistance from this most useful profession, according to Judge Ranney. The rich man may come alongside of him, render his house tenantless for months, break his walls, perpetrate wrongs of the grossest character, and inflict damages of a permanent character, and instead of the legal profession laboring to right him, its shining lights will bring their talents to bear to prevent him from obtaining redress by interposing technicalities and *winking at perjury*.

It might be supposed that there existed in us a prejudice against this one of the three learned professions, as they are termed, but such is not the case. Our views are not recent, but were formed long ago from careful observation extending through quite a number of years, and were not the results of any personal experience.

It certainly should be the object of every one born into the world to feel, when he comes to leave it, that it has been the better for his having lived in it. But an individual can not have this experience who as readily hires out his talents and learning for the purposes of oppression and wrong as for right and justice. It is no justification that it is one's profession to advocate the causes of clients, and consequently that it is his duty or right to take advantage of all circumstances that will assist a client's cause or case. There can be no palliation for inflicting wrong, for depriving a man of his rights. An infliction of a wrong on any one, however humble, or depriving him of his rights, is wrong against common morals and against society.

There must certainly be an entire remodeling of jurisprudence, as it now is, before the profession of the law can be regarded a useful one. Of course it is the object that it should be, but there are too many imperfections for the object to be accomplished. It must be very far, indeed, from being perfect, when it is the general admission that however flagrant may be the wrong inflicted, if an appeal be made to law, the chances are against obtaining redress.

We most emphatically take issue with Judge Ranney

that the profession of the law is a useful one. The evidence is decidedly against the validity of the assertion.

CINCINNATI EXPOSITION.—The Exposition, which has been a feature of Cincinnati enterprise for quite a number of years, will again be held the coming fall, commencing the first part of September, and continuing, as usual, a month. This one will be unusually interesting, from the fact that the loan exhibition of scientific apparatus and specimens of natural science which will be exhibited at the coming meeting of the American Association for the Advancement of Science will be held over for exhibition at the Exposition. This will form a rich treat for all lovers of science. Probably such a collection, as will be exhibited, has never been gotten together.

But, independent of this, the Exposition will well repay any one coming many miles to visit. Not so large, of course, as the Centennial Exhibition at Philadelphia in 1876, yet the objects of interest will be legion. Every taste always finds plenty to gratify it. Many of the most eminent florists of different parts of the country bring together immense collections of flowers, wrought into a thousand forms of artistic beauty. Such collections we have never seen elsewhere. The art gallery always contains specimens of paintings by the best artists of the world, which do much in cultivating and elevating the tastes. Machinery hall is always filled with an endless number of the latest improvements in machinery. The specimens in natural history generally equal those of an extensive museum.

But it would be folly for us to attempt to outline one of the expositions of the Queen City. If we devoted the seventy-four pages of one of the numbers of the NEWS in enumerating all that is to be seen, we would not be able to state half of them. But it is not in the number of the articles that are to be seen that make them valuable and interesting, but the character of the objects themselves are of interest. In a single exposition are displayed inventions, specimens in all departments of science, productions of skill, and a host of things that, while an individual may have heard of many of them, he could see only a few of them except when attending upon an exposition similar to this one.

While there will be much in the coming Exposition to interest every intelligent man and woman, we have no doubt that the scientific physician will be interested more than any other one. We hope to see many of our friends present.

CRIMINALS.—Among the book notices of this number of the MEDICAL NEWS is given the title of a work by Prof. Benedikt, of Vienna, devoted to the study of the brains of murderers. In the introduction we find this statement: "An inability to restrain themselves from the repetition of a crime, notwithstanding a full appreciation of the superior power of the law (society), and a lack of the sentiment of wrong, though with a clear perception of it, constitute the true principal psychological characteristics of that class to which belongs more than one-half of condemned criminals."

These views of the Professor coincide to a very great extent with views we have expressed at different times in various papers we have written during the last fifteen or twenty years, viz.: one entitled "Homes for the Friendless," read before the Academy of Medicine of Cincinnati, and published in the *Quarterly Journal of Psychology*, issued some years ago in New York, and copied from it into one of the English quarterlies; and again in an article entitled "Psychology of the Moral Feelings," published in the *Lancet* of London over ten years ago, and in other papers since then.

We have now neither time nor space to give an outline of our views as we have expressed them, but we are pleased to find that the investigations of physiologists and psychologists tend to confirm them.

WILDFANG'S MINERAL FOUNTAIN.—We are indebted to Mr. Glidden, an attorney of this city, for a bottle of the water of this mineral spring, situated near Neenah, Wisconsin. It is called after the name of the gentleman upon whose land it is located. Prof. Bode, of Milwaukee, who has analyzed it, states that it is superior to the celebrated Carlsbad Water. It is said to have accomplished many cures of persons affected with the following diseases: dyspepsia, indigestion, dropsy, diabetes, rheumatism, Bright's disease, inflammation of the kidneys, and disorders of the

liver and urinary organs generally. The following is the analysis, which will give an insight into its medicinal properties, and aid in judging in what affections it would probably prove beneficial:

Total quantity of soluble salts in one gallon is 110.3894, consisting of:

| | |
|-----------------------|---------|
| Chloride of Sodium, | 2.6208 |
| Sulphate of Soda, | 32.8080 |
| Sulphate of Potassa, | 11.5360 |
| Sulphate of Lime, | 14.5544 |
| Sulphate of Magnesia, | 29.0472 |
| Bicarbonate of Lime, | 11.9784 |
| Bicarbonate of Iron, | 1.3552 |
| Alumina, | 1.0304 |
| Silica, | 6.4680 |

It is stated to be five times stronger than the Waukesha and Siloam waters. Those who have made use of the water for various maladies, speak of its curative properties in the very highest terms. The proprietor of the spring, Mr. H. Wildfang, has never used any efforts to make it known by advertising. What publicity it has obtained is due to the reports of those who have used it. For those ordering it, it is put up in one and two gallon jugs and in barrels and half barrels, and sent by railroad or express. It is very pleasant to the taste. Nothing disagreeable to the most fastidious. It is entirely free from organic matter.

THE INTERNATIONAL MEDICAL CONGRESS.—The seventh biennial session of the International Medical Congress is to be held in London, from August 2d to August 9th. A number of medical gentlemen of Cincinnati have already started for Europe to be present.

The two previous sessions of this congress were held respectively at Philadelphia and Amsterdam. The executive committee, we understand, have made preparations upon the largest scale. The work of the session, it is stated, is to be done in a general meeting and fifteen sections with one sub-section. In this way medicine, surgery, anatomy, physiology, obstetrics and materia medica are covered, and, in addition, all the specialties, including dentistry, state medicine and mental diseases. Each section is very heavily officered, whatever that may mean, with some twenty or thirty medical men. The conse-

quence is that nearly every prominent medical man in Great Britain has his name upon the official list of councillors, vice-presidents or other officers.

For each section there is announced a series of six or eight subjects for discussion. These subjects seem to have been very judiciously chosen, and, if well discussed, a great deal of importance may be expected to be brought out. We can mention only a very few of the topics that are set down on the programme for discussion: The Functions of the Cortex Cerebri; the Intimate Structure of Cells and Nuclei; the Relations of Minute Organisms to Disease; Tubercle, and the Origin of Cancer and Sarcoma; the Localization of Disease in the Brain and Spinal Cord; Forms of Renal Disease; Recent Advances in the Surgical Treatment of Intra-peritoneal Tumors; Treatment of Aneurism by Esmarch's Bandage; Syphilis; Antiseptics in Midwifery; Total Extirpation of the Uterus, by Prof. Freund; Oophorectomy, by Dr. Battey; Syphilis as a cause of Rickets; Spinal Paralysis.

Each of the sections has its President. The President-elect of the Congress is Sir James Paget, the eminent physiologist and pathologist and author. The "patrons" are no less personages than Her Majesty the Queen and His Royal Highness the Prince of Wales.

In connection with the meetings there will be a temporary museum in the rooms of the Geographical Society. In this museum, besides specimens, drawings, casts, etc., arrangements are to be made for the exhibition in groups of living examples of certain rare diseases. Among the subjects selected for such exhibition are: Addison's Disease, Charcot's Joint Disease, Myedema, Mollities Ossium, Scleroderma, Rupture of the Brachial Plexus, Xanthelasma and Lupus Erythematosus.

The prospects now are that the attendance will be large, and, also, that many of the best and most representative medical men from the continent will be present. It is to be hoped that many American physicians will attend, and do more creditable work than they have hitherto attempted at these meetings.

TRICHINÆ IN MEATS.—The *Progres Medical* reports that Mr. Pouchet has made experiments in his laboratory, on three rats, which he fed on both salted and smoked trich-

inous meats. On dissecting those animals, he found no trichinæ cysts in their muscles, but great quantities in the intestinal cavity, showing no signs of having been acted on. He therefore concluded that those meats were not dangerous.

Mr. Bert says that pickling, when recent, does not kill trichinæ, but after a time they die of their own accord in salted meats, in the same way as they die in the human muscles. How long does it take to bring about this result? From experiments made in Denmark, it would seem that from one to three or four months are necessary. The fact is, this point is still in darkness, and it is the more to be regretted that there exists no reliable method by which it is possible to ascertain whether trichinæ contained in meats are alive or dead.

ON VIVISECTION—A Committee of the Medical Society of the State of New York have addressed to the officers and members of the American Society for the Prevention of Cruelty to Animals a letter, the main paragraph of which reads as follows:

With you we earnestly desire to prevent every form of unnecessary suffering. But we would most strongly draw your attention to the radical difference between the infliction of wanton cruelty and the serious and careful use of the lower animals for the benefit of humanity and the brute creation; and we respectfully ask that the name and authority of your Society may not be employed to the injury of the medical profession and of medical science.

OVER 1000 DEATHS FROM SMALLPOX.—During the last week 146 cases of smallpox were reported in Philadelphia, of which thirty-five were fatal. Since November last there have been very nearly 5000 cases of smallpox in the city, of which over 1000, or one in five, died.

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ORIGINAL CONTRIBUTIONS.

Some New Remedies in the Local Treatment of Skin Diseases.

BY JOHN V. SHOEMAKER, A. M., M. D., PHILADELPHIA, PA.

At the last meeting of the State Medical Society I called attention to "some important topical remedies, and their use in the treatment of skin diseases." Since that time I have been enabled to make further practical observations upon some additional preparations, which I bring forward in this paper.

Oleic Iodoform, the first medicinal remedy that I shall consider, is prepared by dissolving about twenty-four grains of iodoform in oleic acid. The preparation thus formed is a yellow oily liquid, with a very slight odor of iodoform. The strength of the solution should be five per cent., or about twenty-four grains of the iodoform to the ounce of oleic acid. Should the amount of the iodoform be increased, it will recrystallize from its warm solution, and will not add any additional therapeutic action to the remedy. As far as I have been able to learn, I believe that I have been the first to use these two preparations in combination. I have had this oleic iodoform prepared in the above manner by Dr. L. Wolff, of Philadelphia, and have used it for some time with both marked and beneficial results. It is an exceedingly valuable remedy, and possesses many advantages over iodoform dissolved in either lard, alcohol, ether, chloroform, or the fixed and volatile oils. The great advantages that this combination has over other iodoform preparations are as follows:

First, it never becomes rancid, like ointments, neither will it evaporate like spirits and ethereal combinations of iodoform.

Secondly, the oleic acid removes very much the disagreeable smell of the iodoform.

Thirdly, the oleic acid will not in any way destroy the identity of the iodoform, but will much enhance its value by the combination. Abundant therapeutic experiment has already shown that the local action of iodoform has been to heal and soothe the parts upon which it is applied. The addition of the oleic acid with its active solvent power, and its ability to penetrate deeply and rapidly into the animal textures, will render the iodoform far more active and effective in many skin diseases.

Fourthly, oleic iodoform not only possesses great penetrating and absorbing power, which manifests itself in prompt remedial action, but it is also one of the most economical and cleanly preparations that can be applied to the skin. It is an economical preparation, as a very few drops suffice for its remedial action, and one should always recollect this fact, and should never prescribe more than one or two drachms at one time. It is also remarkable as a cleanly agent; for, by its rapid absorption into the tissues, it will not stain the linen, as most ointments do.

Oleic iodoform should not be rubbed in like ordinary spirits, liniments or ointments, but should be lightly brushed over the surface with a camel's hair-brush.

Oleic iodoform, applied to the unbroken skin, produces slight stimulation; but when used upon ulcers and abrasions of the mucous membrane, it acts as a decided astringent. If brought in contact with discharging surfaces, and luxuriant granulations, it will check all secretion by contracting the vessels, condense the tissue, coat over the parts by precipitating the albumen, and so protect them from the injurious action of the air. This combined stimulant and astringent action of this preparation, renders it a useful application in a variety of skin affections.

In scrofulous disease of the skin, it is a most valuable adjunct in the treatment. When the glands are involved, and the oleic iodoform is applied over the surface, the stimulating and penetrating action of the combination assists rapidly in reducing them to their normal size. In another class of strumous subjects, in which the lymphatic

ganglions suppurate, break down, and form scrofulous ulcers, which give exit to unhealthy and fetid pus, the application of the oleic iodoform assists in checking the formation of the pus; acts as a disinfectant by destroying all the odor; speedily reduces the abnormal state, and largely adds to the cure of the disease.

Oleic iodoform is also valuable in stimulating granulation and the hardened edges of chronic ulcers of the limbs and back, and likewise restrains and deodorizes the discharges of the part. In boils and carbuncles, the free application of the oleic iodoform, before suppuration sets in, will lessen the pain, and at times will cause them to abort. After an incision has been made in a carbuncle, the use of the oleic iodoform will overcome any noxious odor from the part, and will hasten the process of repair.

In psoriasis of the head, where one finds the scalp covered with a good crop of hair, the best application that can be used is oleic iodoform, which acts effectually in connection with the proper internal remedies. By rubbing this preparation of oleic iodoform thoroughly into the scaly patches of psoriasis of the scalp, it is quickly absorbed, and is far preferable to the various ointments which largely remain on or in the hair, and are either brushed off on the covering of the head or drop down on the neck.

Oleic iodoform can also be used with great benefit in functional diseases of the sweat glands. Thus I have employed it with decided advantage in the profuse secretion of sweat from the axillæ, the palms of the hands, the genito-crural folds, the fundament, and the soles of the feet. Again, its use in that disease in which the odor of the perspiration of the parts just named becomes offensive, both to the patient and those around, not only causes the odor to disappear, but often arrests the diseased condition itself.

In addition to the above observation, I have also found a combination of the oleate of mercury with iodoform to be of very great advantage, especially in the local treatment of syphilitic affections of the skin. This combination can be made by adding about twenty-four grains of *iodoform* to the ounce of oleate of mercury, which gives a yellowish liquid with a very slight odor of the iodoform. The oleate of mercury with iodoform is markedly serviceable when syphilis affects the mucous surfaces, often cur-

ing this obstinate form when other remedies have been tried in vain. For example: I have used this combination in a large number of cases of syphilitic ulceration of the tongue, in which the organ has been enlarged and its surface covered with tubercles, ulcers and fissures, with most decided success, after other remedies had entirely failed. I generally pencil with the preparation the surface of the organ twice a week, and am convinced of its value in these harassing cases by the repeated good results I have witnessed by its use. The same combination is very beneficial in pityriasis, especially of the hairy parts of the body. It is one of the best parasiticides, and is useful in favus, tinea tonsurans, eczema marginatum, and tinea versicolor. In using it in this latter affection, the surface should always be washed with soap and water preparatory to its application; and, after repeated use, it will be found that the itching will cease, and the fawn-colored, dry and branny scales will gradually lessen, until all traces of the disease have disappeared.

The oil of ergot, the next remedial agent that I shall refer to, came under my observation in the following curious manner: Eight or nine months since, while conversing and examining with Dr. Wolff, of Philadelphia, in his laboratory, some *medicated soaps* and *oleates*, I was attracted to an *oily* liquid that stood on one of his tables, and, upon inquiry, I was informed that it was a refuse material known as oil of ergot. Dr. Wolff, at the same time, offered to send some of this oil to the dispensary, and added that I might find it useful in some skin affections. The preparation was accordingly sent, and after using it for some months, I was agreeably surprised to find most decided benefit in its use for a number of cutaneous diseases. Since using the oil of ergot, I have carefully searched the various therapeutic works and the different journals, and have failed to find any one who has previously made any observation upon its external use.

The oil of ergot has long been known as one of the principal ingredients of the ergot. As found in the laboratory of the chemist, it is the waste material that has been left after preparing the various ergot preparations. If specially prepared, it can be made by the addition of benzine to ergot by the process of displacement, and afterwards allowing the benzine to slowly evaporate. When obtained from recently collected grains, it has a

reddish-brown color, and about thirty-five parts of it are present in every hundred parts of ergot. It is a moderately thick, non-drying, fixed oil, and contains resin, cholesterolin and lactic acid. It has a slight odor of herring pickle, an acrid taste, and is soluble in both alcohol and alkaline solutions. As a local remedy, this refuse oil is much cheaper than any of the other oils and fats; and contains, in addition to its fixed oil, other ingredients that make it a most important therapeutic agent. When applied to the skin, it has a protective, soothing and astringent action, and by its absorption frequently assists in nourishing the diseased part.

Excellent results can be obtained by using the oil of ergot in the acute variety of eczema. Particularly is it valuable in that form in which the part is hot, tumefied, and covered with small vesicles, some of which have burst, and the fluid coming in contact with the surrounding parts has caused considerable irritation. If the oil of ergot is painted over the surface in such a condition, it will exclude the air, allay the itching, constrict the engorged capillaries, moderate the weeping of the part, and prevent the formation of crusts upon the diseased surface. It is a most useful application in eczema of the lips, in which the surface is tumefied and fissured, and readily bleeds upon the slightest movement of the parts. It is also efficacious in cracked nipples. Pieces of cotton saturated with oil of ergot, and placed over the lips or the nipples for a short time each evening before retiring, generally arrest the diseased state. The oil of ergot is a most important remedy in herpes of the genitals. Applied either with a brush or a piece of cotton in this affection, it allays the red, swollen, smarting and burning sensation of the parts by its soothing and astringent action.

Few remedies are so efficacious as oil of ergot in checking the formation of scales in seborrhœa of the scalp and other hairy parts of the body. If there be an accumulation of scales and sebum upon the scalp, and the hairs be parted down to its surface, the free use of this oil will bring about the most happy results. In a number of instances, I have witnessed the efficacy of this remedy used in the following manner: I direct the patient at night-time, just before retiring, to pour a quantity of the oil of ergot upon the scalp, and to rub it in thoroughly until all the masses of sebum become soft and loose, and

the surface is saturated with the oil. The head should then be protected by either an *oiled silk*, muslin or flannel cap, or a bandage, in order to prevent the oil from soaking through and soiling the bed linen. In the morning the dressing should be removed, the scalp covered with a copious lather of soap, and afterwards washed out with warm water, so as to get rid of all the loose masses of sebum. The patient should next dry carefully the surface with towels, and again rub into the scalp a small quantity of the oil of ergot, as a hair oil. This preparation is to be preferred for this purpose to either olive, almond, or any of the bland oils, both for its cheapness and for its medicinal activity upon the diseased state of the scalp. It not only overcomes mechanically the condition of the parts, but likewise arrests, by its soothing and astringent action, the dry and lustreless state of the hairs and the deadened appearance of the scalp. This twofold purpose that the oil of ergot fulfils, makes it superior to all other medicinal preparations that are used for *seborrhœa sicca* at the present time. In using the oil of ergot for *seborrhœa sicca* of the scalp where a stimulating action was indicated, I have sometimes added one or two ounces of alcohol to three or four ounces of oil of ergot, and applied it in the same manner over the surface with the most beneficial results.

The effect of the oil of ergot in *seborrhœa* of the genitals in both sexes is just as conspicuous. It should, however, when used in this part of the economy be penciled over the surface, or applied with a piece of cotton, on account of the delicate condition of the mucous membrane of the parts. If used in the above manner, it will soften up the whitish cheesy masses which collect about these parts, check decomposition and bad odor, and arrest all red, hot and irritable conditions of the surface.

Oil of ergot is also of great service as a local application in erysipelas. Brushing frequently the surface in this disease with oil of ergot relieves, by its soothing and astringent action, the tender and hot sensation, and causes the puffy, dry and glazed appearance to abate.

In *rosacea*, or an enlargement of the bloodvessels and tissue of the face, after making punctures over the patches with a needle knife, and allowing the surface to bleed freely, the application of the oil of ergot will soothe the

part, constrict the bloodvessels, and thus modify very much the diseased action.

Before concluding these remarks upon oil of ergot, I should add that I have found it equally efficacious in various affections of the mucous membrane. In catarrh of the nasal passages, I have saturated a piece of cotton with the oil of ergot, and applied it by means of a probang, with the most beneficial results.

Applied with a piece of cotton in ulceration of the cervix uteri, the oil of ergot has acted with great promptness. In gleet, I have had some marked cures from its use by passing the catheter and injecting the oil far back into the *urethra*. In both leucorrhœa and gonorrhœa I have used from two drachms to one ounce of the oil of ergot, made into a six-ounce emulsion, and had it injected night and morning, in a number of cases, with marked success.

I have, in concluding this paper, simply mentioned the local use of the oil of ergot in other affections of the mucous membrane not properly belonging to the title of my paper. I hope, however, before long to hear from some of my professional brethren further concerning the local use of this valuable preparation, that has, previous to my observation, been cast aside as refuse material.

Precautions, previous to, or during Surgical Operations, with Reference to the Avoidance of Putrefaction.

BY DAVID PRINCE, M. D., ILLINOIS.

Two conceptions are at the base of the precautions against the putrefactive complications which retard the healing of wounds.

One is the seclusion from the surfaces, of the causes of putrefactive fermentation, whether these causes be supposed to be organic germs or chemical agencies. The other is the preservation of the power of resistance of the exposed wounded surfaces.

It would seem, from abundant observation, that the contact of the atmosphere with its load of ferment will, in one case, result in a putrefactive action, while in another case in the same atmosphere, union by the first intention

will take place. The reason why the wounded surfaces in the latter case adhere, and in the former case they do not, must lie in the wound itself. One is prepared to become the seat of putrefaction and the other not. The reason why wounds of the face are in less danger from septic influences than parts more distant from the circulating center, is the greater vascularity of the tissues, and the more rapid production of organizable exudations.

The new formed tissue has under it in the latter case an abundant vascular support, enabling it to resist the influence of destructive agents.

The nutritive processes being slower in the extremities, there is a necessity for keeping guard against septic intruders, until the new surfaces have acquired sufficient power of resistance.

1. The first preventive is the absence of an atmosphere containing an infection of erysipelas, septic fever or hospital gangrene.

2. The second preventive is the cleanliness of the cutaneous surfaces of the parts to be operated upon, and of the sponges, instruments and fingers of the surgeon and his assistants.

The surface may be washed with carbolized water, or, when it is not intended to apply plasters, they may be smeared with carbolic acid ten per cent. in oil. The sponges may be soaked in a saturated solution of carbolic acid, the instruments dipped in 95 per cent. carbolic acid or in a strong carbolized oil, and the fingers cleaned with a nail brush and dipped in carbolized water or smeared with carbolized oil.

The neglect of these precautions endangers the introduction into a wound of those agents which may originate putrefaction and erysipelas. Mr. Lister dwells especially upon the danger of introducing into gunshot wounds septic ferments by the employment of the finger in explorations.

3. The third preventive is that of nature, which secures the covering of the wounded surfaces with a blood clot. If this is wiped away only at the last moment before bringing the lips of the wound together, the surfaces are exposed to the air for the briefest period of time for the lodgment of offensive material; and the wound has the shortest possible period for those alterations, which take

place in connection with the evaporation of the moisture of the surfaces.

4. The fourth preventive is the water applied to the surfaces in connection with the removal of blood. Anything deposited from the air is likely to be washed away, and the surfaces are subjected to evaporation during the briefest period possible.

To this end a stream of water flowing over the wound for a brief period is calculated to carry away suspicious deposits.

Ice applied for the purpose of averting hemorrhage by the contraction of the vessels, unavoidably works toward the same end by producing a watery flow as it melts.

A watery spray tends to precipitate and wash away atmospheric dust, and to dilute any chemical agent afloat, while the surface is at the same time kept from drying.

5. The spraying of the wound with ether, though it may be done with the primary intention of producing cold and contracting the vessels, secures a deposit of a portion of the aqueous vapor of the atmosphere, bathing the part with a dew saturated with ether, serving not only to wash over any foreign substance, but by the action of the ether, to destroy the vitality of any animal or vegetable substance already developed out of the germ state. Ether is entirely harmless to a wounded surface, and on this account it is always a good application to favor union by adhesion.

John Johnson, a healthy young man, aged 17, was, in the year 1866, injured in the middle third of the thigh, which was crushed under a car wheel, rendering a high amputation necessary. This was done in two flaps.

The vessels were all secured by accupressure, according to Simpson's third method (by which the artery is compressed) by a needle on one side and on the other by a wire looped over the point of the needle—brought over the artery and twisted around the needle at its heel. By this means the needle can be drawn out first and the wire afterward.

Before bringing the lips of the wound together, they were very freely sprayed with ether. I take a paragraph from my notes, made at the time. "The nebulizing apparatus was employed with a very satisfactory result, using ether as a cooling agent. I had previously settled

the fact, that ether is no impediment to union by the first intention. Ether favors union by arresting capillary hemorrhage, and favoring the early establishments of the exudation of organizable lymph. The parts were brought together and secured by sutures of iron wire deep and shallow, leaving two inches of space open at the lower end of the incision for drainage; after which the stump was firmly bandaged, to secure close coaptation and immobility of surfaces." "Very little drip followed, and though the patient had a localized pneumonia following the injury, he rode in a buggy on the 25th day to a photograph establishment, and by means of crutches helped himself up stairs."

Reasoning upon the good results that have followed the spray of ether, it has been conceived that they are not owing chiefly to the reduction of temperature, but in great part to its power of preventing putrefaction. From this theory comes the practice of pouring ether upon and into wounds immediately before closing them, in cases in which it is not convenient to employ the spray. By the use of ether in spray, or by pouring it upon incised or lacerated surfaces, the parts are cooled, and they are moistened by precipitation from the air. Organic agents are brought in contact with a fluid unfriendly to their continued vitality.

The combination of carbolic acid, iodine, and other antiseptics with the watery spray, is supposed to precipitate or destroy living floating agents, and to make the surfaces upon which the precipitated spray falls non-receptive of poisonous invaders.

That this latter result is the one upon which the safety in part depends is rendered probable by the consideration that the atmospheric ferment is not destroyed by any agent which the surface can tolerate, nor by a temperature much below that of boiling water, nor even by a high temperature, without a continuance of the heat through a considerable period of time. In the art of canning fruit, it is found that for some varieties, as for green corn, several hours' continuous boiling is necessary to prevent fermentation after sealing in air-tight receptacles.

It can not, therefore, be that the atmospheric ferment, whether it be chemical or organic, is decomposed or destroyed by such a weak agent as a spray of a watery solution of carbolic acid or a solution of iodine or of any

other substance capable of being tolerated by the surface which it is intended to protect. If these hypothetical agents, chemical or organic, are not destroyed, they are precipitated upon the surfaces, and that too in as great quantity, as if they were conveyed in the dry state by dry air.

That the septic sequences in wounds depend more upon the condition of the exposed surfaces, than upon the brief presence of air, is rendered probable by the fact, that in hypodermic injections a minute portion of air is often pushed in from the syringe after the injected fluid, and yet, a septic result is extremely rare.

The areolar tissue becomes infiltrated with air on a large scale in emphysema following solution of continuity in the walls of the air passages; the skin being blown up and distended to a great degree, and yet there is such exemption from any inflammation or toxic sequence, that the possibility of such a result rarely enters the mind of the practitioner. In these instances, the surfaces are not dried, and the preparation for sepsis is not made. The seeds may be in the air which is introduced, but like seeds in the ground, they wait for an exposure at the surface, with favorable conditions.

The lesson from this consideration is not to permit surfaces to dry under direct exposure. In this view, assiduous sponging during the progress of an operation removing the clot from the surface, is not good practice.

On the supposition, that the moisture acts upon the exposed surface to make it non-receptive of the atmospheric ferment, the explanation lies chiefly in the protection of the surfaces from drying and the albuminous exudation from that incipient step toward decomposition which attends the evaporation of a portion of its water. While the presence of a weak combination of an antiseptic can do no harm, it is well to have an appreciation of the value of moisture as such.

6. Immersion. This leads to the mention of the plan of operating under water, or in such circumstances that the part under treatment can be kept under water as much of the time during an operation as is compatible with the operative procedure. This most effectually prevents the drying process and the attendant aptitude of the serous membrane, or of the raw surfaces for the septic or putrefactive process.

The water alone can not keep away the septic ferments, for it has been shown by Lister, Tyndall, and other observers, that water will set to work the process of decomposition, when added to substances otherwise protected by subjection, first to heat, and afterward sealed or permitted the contact of air filtered through cotton or purified by the settling of its dust so as to be free from its floating ferment.

The protecting effect of simple water must therefore be in preserving the exposed surfaces from that aptitude for putrefaction, which consists in drying. The addition of carbolic acid and salicylic acid to the water for a period no longer than may be necessary for a surgical operation, may destroy bacteria in the developed state, but it can have little effect upon the ultra-microscopic germs, which (upon the germ theory) are to be dreaded.

While speaking of immersion, the case of the exposure of the peritoneum must be mentioned. This is a surface which, in the natural state, is perpetually bathed in a moist secretion, so watery as to be changed in its physical character by evaporation, and so small in amount as to permit of an injurious drying by a short exposure to a dry atmosphere. It is not protected during an operation by a blood clot, as is the case on incised surfaces. Hence the necessity for special care to avoid the drying influence of atmospheric exposure upon serous membranes. On the chemical theory of septic fermentation, the observations already referred to, make it certain that the destruction of the supposed chemical ferment is equally difficult with the destruction of the supposed organic ferments, so that it makes no material difference whether the germ theory or the chemical theory be adopted; both theories being equally hypothetic and the practice empirical.

The germ theory has the advantage in this, that it has been proved that the ferment can be sifted out of the air by simply passing it through cotton wool, and that being heavier than air, it will settle, if, as in a tight box, the air can be kept still for a few days. It is therefore not a gas, as would be supposed if chemical, but a substance which will adhere to the fibers of a cotton mesh, and settle to the bottom of still air.

That putrefaction is the chief cause of the bad behavior of wounds is proved by observation, and admits

of no shadow of doubt. The resulting surgical fever which was formerly supposed to be owing to the contact of oxygen, is now believed to be owing to the irritation of putrid pus upon the surfaces, and its absorption into the blood.

The proof that putrefaction depends upon minute organisms, or infusoria, the germs of which are ultra-microscopic or discoverable only by lenses of the highest power, is so far proved as to have become the scientific opinion of the age. It is pretty well made out that these germs are kept floating in the air by its currents, and that still air, contained in a closed box, drops them to the bottom. It is also pretty well made out that they adhere to the meshes of substances containing small spaces, as is the case with cotton, so that air passing through thin spaces becomes free from these germs, and from all kinds of dust.

The proof of this absence of dust of all kinds, is the absence of the power of dispersing light. A beam of light is sent through opposite openings in a box containing air purified by filtration through cotton, or by settling for several days, while the observer looks across the beam, through another opening, so that the line of vision is at an angle with that of the beam of light. If the air is free from dust nothing is seen: while floating particles are seen, not individually, but as the appearance of mist. The blueness of the sky is attributed to minute dust floating in the air, too fine for discovery by the microscope. Air flowing over Mount Blanc is said to be nearly free from this dust, and therefore unapt to excite putrefaction.

If it is impossible to destroy this ferment and impracticable to have an atmosphere altogether free from it, in which to work, a large measure of our precaution must be directed to the prevention of susceptibility in the wounded surfaces.

It has been said that bacteria have been found when there was no smell or other evidences of putrefaction, and that on the other hand putrefaction has been found where bacteria could not possibly be found unless they or their germs perforated the tissues.

Billroth inclines, on the ground of his investigations, to the belief in the presence of minute organisms in the healthy body in a latent condition. According to this

view, they will be brought from behind to the surface of the wound, and will find, in the secretions to which air has had access, matter fitted for their activity.

In reference to this question, Thiersch says:

"I agree with those who believe that the action of the atmospheric ferments furnishes the preliminary for sepsis, hospital gangrene and pyæmia. I assume that by chemical decomposition under the influence of the ferments, poisonous matters are set free, and that the ferments are not poisonous."

In opposition to the significance attached to the presence of bacteria where there is no putrefaction, it is claimed that there are different kinds according to the different chemical actions which they excite and accompany.

Mr. Lister, in his lecture before the International Medical Congress in Philadelphia, in 1876, referred to experiments by himself, in which the bacteria found in connection with the souring of milk were of a different form from those found in connection with putrefaction.

He claims that bacteria found under antiseptic dressings, where there is no odor of putrefaction, are of a kind which do not generate putrefaction. The same may be said of those which are reported to have been found in the blood and in places inaccessible to air.

The claim has been made that the offensive smells of chronic abscesses situated in the neighborhood of the intestines, is not owing to the putrefaction, but to the transfer of chemical combinations from the interior of the intestines during life, in the same manner in which the flesh of animals is spoiled by becoming the receptacle of odorous emanations, being rendered in this manner unfit to eat, if the intestines are not soon enough removed. This is not supposed to be putrefaction, but a gaseous absorption and transfer from the intestinal tube to the tissues of the neighboring parts, and to collections of pus.

A case in illustration occurred in the practice of the writer, in which an abscess in the abdomen, simulating a full bladder, was aspirated, and a quart of exceedingly offensive pus evacuated. Upon the supposition that this pus was in a state of putrefaction, it was supposed that the abscess would refill, but it did not. The unevacuated pus must have been absorbed. The fluids and gases of

the intestinal tube must be antiseptic from the long preservation of retained feces, and the odor thus derived must have another meaning than that of putrefaction.

So of the odor of internal abscesses connected with bone which often exhibit a very offensive smell when opened. It requires a re-examination of the subject to settle the question whether this odor is dependent upon putrefaction. The smell is different from that of open air putrefaction of pus, and the attention of observers is called to the question of its character.

Whatever may be said of the germs which are supposed to be the incipient condition of all that is offensive in wounds, and whether or not it may be possible to avoid them, or to destroy them, the way is now plain with regard to the subsequent treatment of wounds into which germs have entered, or into which it is feared that they may enter.

We have only to employ a solution of an antiseptic of sufficient strength to be inimical to bacteria in the developed state; or on the chemical theory, inimical to the continued and complete reproduction of the ferment. A solution of such a degree of feebleness as to be friendly to the tissues of an injured or wounded part, may be death to the microscopic beings that have to live in it, or destructive of the chemical changes necessary to the developed condition of the putrefactive fermentation. The spray meets an important indication to prevent this dessication, but immersion meets it better.

Before opening the peritoneal cavity, the patient may be laid in a bath of water of the temperature of 100° F. with chloride of sodium sufficient to bring the water near to the density of serum, in order to prevent injurious osmotic action, with a small addition of salicylic and carbolic acid, to have an effect to destroy developed bacteria. Across the bath tub and under the trunk of the patient should be stretched a wide towel, two yards in length, with a cylindrical attachment of wood at each end, which may conveniently be made of a broomstick. Each of these ends should be placed in the hands of an assistant, and by this towel the trunk is to be raised from the water at any moment. As the water becomes opaque from the presence of blood, the trunk is raised so that the surface of the abdomen is out of the water for the briefest period compatible with the amount of seeing necessary for the

operative procedure. The fluid is friendly to the peritoneal surfaces, and it is not important that it should all be removed before the final dressing, as it will speedily be absorbed. In addition to the antiseptic advantages of this immersion may be mentioned the avoidance of the adhesion of a blood clot to the peritoneal surface. As the blood flows in the water it becomes diffused to a degree incompatible with the formation of a dense and adhesive clot. The wiping of the peritoneal surfaces with sponges is avoided. The peritoneal surfaces are protected from being cooled by the contact of air, which will almost unavoidably be at least fifteen degrees lower than that of the blood. The heat of the extremities will at the same time be kept up to that of the water in which they lie. The reduction of the temperature, one of the chief causes of shock, will thus be avoided.

In this connection it is convenient to quote from Prof. Weber, who, in a lecture before an association of naturalists and physicians at Giessen, Prussia, in 1864, recommended the performance of paracentesis of the thorax with the part submerged in salt water. "In the clear salt water it could be seen how the pus escaped during the expirations, and how the salt water entered during the inspirations, to wash out the pus in the next expiration."

TEMPERATURE.—During the conduct of an operation, or in the first dressing of injuries, the depressing influence of the extensive and prolonged application of cold must be avoided. It has been settled by observation, that heat is more successful in arresting hemorrhage than cold, so that it becomes good practice to finish the preparation for dressing by the application of heat.

It is suggested that immediately before closing the wound in which it is desired to have union by the first intention, the clots should be cleaned away by sponges taken from water as hot as can be borne by the hand without decided discomfort, or at a temperature of about 120° F.

Sponges of sufficient number or size should be employed to cover all the surrounding surface at once, and they should be held in close contact with the incised or lacerated surfaces about two minutes, and, on their removal, the wound should be finally closed. If the wound should be opened on account of any suspicion of bleeding,

the same process of the application of hot sponges should be repeated.

By this process all oozing of blood from vessels too small for torsion, pinching, acupressure, or ligature, immediately ceases, and the surfaces are ready to be bathed in a colorless plastic exudation on being placed in contact in the final dressing.

In the subsequent management of the wound, the safest rule in relation to temperature is the comfort of the patient, and in cases in which the sensation has been annulled by the failure of nerve communication, the preservation of the natural temperature of the body is the safest guide.

The use of a thermometer with a flat bulb for application to the surface is convenient in determining the temperature of the part. The stem is wrapped with cotton, both to prevent the dissipation of heat, and to afford the means of holding the thermometer in position without exerting pressure upon the bulb. The bulb must necessarily be so thin that pressure upon it will cause the mercury to rise too high in the stem, and vitiate the reading of the temperature.

It is usually desirable that the application of heat or cold should be uniform, and not by fits.

For the application of heat, substances that are poor conductors, or hot water surrounded by poor conductors, or a stream of warm water through a coiled rubber tube, will serve the purpose, with occasional renewal.

¶ For the application of cold, the surrounding of an ice bag with poor conductors diminishes the tendency to fluctuation, at the same time diminishing the intensity of the cold. The use of the coiled tube, conveying a perpetual stream of water, generally of the temperature of the room in which the patient lies, and gauged as to the quantity passing, secures a difference in temperature between the coil and the body of from 20° to 30° F., with a capability of varying the rapidity of the abstraction of heat by changing the height of the bucket or other reservoir, or of varying the orifice of exit of the water.

For the application of heat or cold with moisture, the open irrigation, the immersion and the poultice come into requisition.

Michigan State Board of Health.

[Reported for the CINCINNATI MEDICAL NEWS.]

THE regular meeting of this Board was held at Lansing, July 12, all the members being present, as follows: Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, of Pontiac; Henry F. Lyster, M. D., of Detroit; J. H. Kellogg, M. D., of Battle Creek; Arthur Hazlewood, M. D., of Grand Rapids; John Avery, M. D., of Greenville; and Henry B. Baker, M. D., Secretary.

Hon. Le Roy Parker was elected President of the Board for the ensuing two years.

SMALL-POX.

Dr. Jacokes spoke of an immigrant tramp-burglar who came down with the small-pox while confined in the jail at Pontiac. He and another prisoner in the jail were removed to the temporary hospital. The prisoner stole the clothes of the immigrant, and leaving his own, ran away. Some one then stole the prisoner's cast-off clothes and bedding, after supposed disinfection, and by this means small-pox was communicated to more than sixteen persons. He also reported that a second immigrant brought small-pox near Pontiac, but the disease was restricted.

Dr. Kellogg reported that an immigrant, sick with small-pox, had recently been put off a M. C. R. R. train at Battle Creek. He remained about the depot all day before it was discovered that he had small-pox. He was then removed to a tent-hospital.

Dr. Avery reported an outbreak of small-pox apparently brought by an immigrant Dane, who was vaccinated and not sick himself, to a camp in Montcalm County. The immigrant slept with and gave the disease to a countryman who was vaccinated before his arrival in this country six years ago. The disease was light, the man not being confined to his bed at all; and, finally, he went to a family of five unvaccinated persons, all of whom had the disease lightly. There were other cases in the neighborhood coming from the same source. The immigrant probably brought the contagion in his clothing from some infected city or immigrant on the journey, as he said there was no small-pox on board the ship on

which he came, though there were cases of diphtheria on board.

A communication was received from the American Public Health Association, asking the influence of this Board to secure legislation making it a criminal offense for any person to communicate any communicable disease, such as small-pox, scarlet fever, or venereal diseases; and giving to boards of health and health officials the same power in the prevention and suppression of other diseases, as they now possess in cases of small-pox.

The Secretary presented a resolution of the American Public Health Association, asking the Michigan Board to use its influence to secure general vaccination.

THE CHICAGO SANITARY CONFERENCE.

By direction of the Board, the Secretary had attended the conference of delegates from local and State boards of health, held at Chicago, June 29, for the purpose of devising means for preventing the introduction of small-pox and other diseases by immigrants. As secretary of the conference, he had prepared an official report, and sent it to the National Board of Health for publication in its bulletin.

The action of the sanitary conference, to prevent the spread of small-pox, was indorsed, and

RESOLUTIONS WERE ADOPTED,

Requesting the National Board of Health to secure, if possible, the vaccination of immigrants before they land in this country; asking the attention of every local board of health in Michigan to the details of the plan adopted at the late Chicago conference; calling upon them to secure careful inspection of all immigrants entering and remaining within their jurisdiction, and a prompt vaccination or revaccination, with pure and fresh bovine virus, of all persons not protected against small-pox; calling attention to the need of establishing a quarantine at Port Huron; also, asking the National Board of Health to aid in preventing the introduction of small-pox and other communicable diseases by immigrants landing at Eastern ports.

Dr. Baker read resolutions of the Tennessee State Board of Health, indorsing the action of the Memphis Board of Health, commending the inspection service of the National Board of Health as being very much more effective

than local quarantines, with less detention and annoyance to commerce.

VACCINATION FOR VARIOUS DISEASES.

Dr. Lyster, committee on epidemics and other diseases, read a translation of two important papers recently published in France, on the causation of certain communicable diseases, which gave details of successful methods of making viruses which can be used in vaccination, and are effective in preventing deaths from these diseases. He received the thanks of the Board, and was requested to embody his remarks, and so much of the translation as was essential, in a paper for publication.

Dr. Baker had paid some attention to the same subject in connection with diseases of animals, affecting the public health. He mentioned a paper by Prof. Law, of Cornell University, suggesting that these protective viruses all seemed to be made in accordance with a general law, namely: by their cultivation in fluids with access of free oxygen; and this gives us great hope of soon being able to make protective vaccination for many of the most dangerous diseases in animals and mankind.

Dr. Baker reported the investigation of an outbreak of a new disease in England, traced to the eating of American hams. The cause of the disease proved to be a virus which was used to inoculate animals of various kinds and reproduced the same disease in them. From the accounts, it seems probable that it is no more nor less than our hog cholera. The symptoms closely resemble, in some respects, the disease known last winter in this country as "winter cholera."

SANITARY ASSOCIATIONS.

Dr. Jacokes referred to the Pontiac Sanitary Association, and the work it was doing for public health in that city.

Dr. Kellogg reported the formation of a sanitary association at Battle Creek, as a fruit of the recent sanitary convention held there by this Board. Among the subjects brought before the association was that of impure water. He had examined a sample of water used at an eating-house, among the boarders at which there were seven cases of typhoid fever last year. It contained a large amount of organic matter. Also, a sample containing organic matter and a large amount of chloride of

sodium, used by a family in which there had been much illness.

The request of the sanitary convention at Battle Creek, that this Board issue a circular on criminal abortion, was referred to Dr. Kellogg as special committee.

FUTURE PUBLICATIONS.

Drs. Lyster and Baker reported their revision of the document on the restriction and prevention of diphtheria, and different points were discussed, amended, the document adopted, 30,000 copies will be printed, and the document stereotyped so that local boards of health may secure any number of copies at cost of paper and press-work.

Dr. Jacokes referred to the great lack of knowledge among those who ought to know, as to what constitutes thorough disinfection. He proposed to remedy this by the preparation of a circular on disinfection.

Drs. Baker and Kellogg were appointed a special committee to prepare a tract on disinfection, which shall give the best method adapted to each disease and to each article to be disinfected, and which shall call attention to the many useless substances now employed for such purposes.

The document heretofore issued on the treatment of the drowned being out of print, it was referred to a committee for revision, with a view to its republication.

Dr. Baker was instructed to prepare a paper on the best methods of constructing hospitals for communicable diseases, avoiding the use of the name "pest-house."

LEGISLATION UPON HEALTH.

Hon. Le Roy Parker, committee on legislation, made a report relative to public health acts passed by the last Legislature, giving the titles of forty-eight acts bearing directly or indirectly on public health subjects, mentioning the subject of each act. These acts give increased powers to local boards of health, additional appropriations to the State Board of Health, authorize the Board of Control of State Swamp Lands to appropriate lands to drain overflowed lands, etc.

The recommendation by Dr. Foster Pratt, of Kalamazoo, for the amendment of the law relative to reporting dangerous diseases, was referred to the committee on legislation.

Under the new appropriation made by the recent Legislature, the Board authorized the purchase of additional meteorological instruments for the use of the Board's observers in different parts of the State.

WORK IN THE OFFICE.

The Secretary read a report of work in the office, which included a statement of the number of health officers appointed for the present year beginning April 1, as follows: in townships, 797; villages, 107; cities, 32; total, 936. For the year ending April 1, there were appointed: for townships, 827; villages, 112; cities, 36; total, 975, a difference of 39. It is believed that more than 39 will be returned before the close of this year. The 975 health officers appointed for 1880 made annual reports to this Board, as follows: of townships, 414; of villages, 55; of cities, 14. Clerks of local boards of health have sent annual reports for 1880: from townships, 501; from villages, 36; from cities, 7. The compilation of these annual reports is now in progress.

During the quarter, the correspondence of the office has been materially increased. This was partly caused by the outbreaks of small-pox in the State, and by the prevalence in some places of diphtheria. In one northern township, where the health officer was not a physician, the local officers applied to this office for a physician to be sent to aid in stopping the spread of the disease; and, by direction of the Secretary of the State Board, Dr. Hawxhurst, ex-health officer of West Bay City, went there at the expense of the township, and has reported that the outbreak has been stopped.

The usual number of complaints have been received of sickness caused by flooding rivers, for the purpose of running logs in the northern part of the State. In answering these, the Secretary has used Mr. Parker's paper on the powers and duties of local boards of health.

EXAMINATION IN SANITARY SCIENCE.

The fee for examination in sanitary science was changed from \$10 to \$1, the latter sum being deemed sufficient to cover the actual expense. It was voted that applicants unable to be present at this meeting may be examined at the meeting of the Board, October 11, 1881. Application to be made to the Secretary at Lansing.

GLUCOSE SUGAR AND SYRUPS.

Several samples of sugar and syrup, manufactured at the Michigan Grape Sugar Factory at Detroit, were presented to the Board and partially examined.

NOTICES OF CONTAGIOUS DISEASES TO SCHOOLS.

The Secretary presented samples of notices of contagious and infectious diseases sent by the health officers of Grand Rapids and Tecumseh to the superintendents of schools in those cities; and suggested that if the health officer of each city would send such notices to superintendents, it would be a very important public health measure.

PREVENTION OF BOILER EXPLOSIONS.

An account of an experimental boiler explosion, by D. T. Lawson, was presented. His view is that they can be prevented by such a construction of the boiler as will stop the too rapid increase of steam under suddenly reduced pressure, as at starting the engine or by the sudden introduction of cold water. Results thus far seem to demonstrate the correctness of his theory.

The Secretary was directed to present hereafter, at each meeting of the Board, a *resume* of the action of other State boards of health.

After auditing bills and accounts, etc., the Board adjourned to meet October 11, 1881.

SELECTIONS.

Recent Progress in Gynaecology.

BY W. H. BAKER, M. D.

EXTIRPATION OF THE CARCINOMATOUS UTERUS THROUGH THE VAGINA.

The operative procedure as adopted by Schroeder and described by him in a paper presented to the German Gynæcological Society at the fifty-third annual meeting of German Naturalists and Physicians, held in Dantzic, consists in inserting a muzeux forceps into each lip of the os and drawing the uterus downward. The vagina is then cut through round about the portio vaginalis, which

is often much thicker than is generally supposed. The separation of the bladder from the cervix may be accomplished without difficulty, the connective tissue between the two organs being loose and easily separable. The bladder escapes upward, which greatly protects the ureters from injury. The posterior surface of the uterus must next be freed. Douglas's pouch is opened, the two folds of which, during the forcible traction downward, are often close together. The scissors may be used to widen the posterior opening. The uterus is then inverted from behind. This is easy at times, but very difficult when the organ is large and stiff. After inversion, the uterus lying in the vagina, the peritonæum of the vesico-uterine excavation is cut into, and the uterus is then attached only to the broad ligaments. These are not easily disposed of; the hemorrhage is not large, the downward traction preventing it at first, but secondary hemorrhage is to be feared. In ligating, Schroeder preferably leaves the tubes and ovaries in the pelvis, because the pedicle thus obtained is longer. Dividing above the ovaries prevents the place of ligation from being drawn into the vagina or fastened there. The spermatic arteries, together with the infundibulo-pelvic ligament, draw upward. For this reason, in one case cited by Schroeder, a very difficult and tedious circumligation was required. Ligation may be performed *en masse*, or in portions, or both. Division then being made close to the uterus on one side, the uterus may be drawn down with great facility, and the ligation of the other side is much easier. Both stumps are sewed into the vagina, and a drainage tube inserted into the central opening. Schroeder sews with silk and ordinary curved needles, first laterally outward, and the stump almost between the two margins of the vaginal wound, so that possibly bleeding vessels or discharging wounds project into the vagina. Be the uterus ever so friable, the operation is still possible. Should it be adherent, he would separate benign adhesions from the malignant fixations. Benign adhesions are easily separated, but those caused by the formation of tumors tear.

That the prognosis is good is asserted not from statistics merely, but from the impression made on those who have recovered, an easy convalescence being the rule. An important fact in favor of the operation over laparotomy is the absence of collapse or shock, even after

much loss of blood. Schroeder's cases reacted like puerperæ after considerable hemorrhage, the recoveries being rapid and perfect, and impressing him greatly with the important difference between the superior and inferior methods of operation.

Many cases do not occur in which the entire uterus must be extirpated. It must, however, be done in affections of the cervix. The vagina may be likewise affected, but the section must extend to one, possibly to two, centimeters from the new formation. Thus the operation finds its limits.

Counter-indications: (1.) When carcinomatous nodules can be demonstrated in the pelvic connective tissue. (2.) When not only extensive infiltrations exist, but also quite small nodules, as often demonstrated by careful palpation in Douglas's folds. (3.) In carcinoma corporis, laparotomy, in which operation the body of the uterus alone is removed, being often much easier and less dangerous. In carcinoma corporis, laparotomy, with amputation at the internal os, might become the typical operation. (4.) When the size of the uterus is too great, the operation being most easy in a roomy pelvis and ample vagina.

CANCER OF THE BODY OF THE UTERUS.

Veit has himself observed twenty-one cases in three years. He concludes that carcinoma of the body is always beyond any doubt a glandular carcinoma. Different forms occur, depending on the early disintegration of the new formation; so that as the degeneration increases layer by layer the cavity becomes larger, while the neoplasm itself is not thick. But a circumscribed spot may become affected, and a node form from that starting-point. In other cases the uterus is tense, and large nodes spring from it. No case has been observed in which the mucosa was not implicated. The musculature has but a slight tendency to carcinomatous degeneration; the peritonæum rarely participates. Veit favors the view as to its origin from adenoma. Microscopical examination determines the diagnosis. The most important characteristic symptom is the intermittent, labor-like pain.

TREATMENT OF EXTRA-UTERINE PREGNANCY.

Dr. Lusk cites several cases of extra-uterine pregnancy

in which faradization and galvanism have been effectually used.

In the larger number the faradic current was employed, and of these his own case was one. Faradization in extra-uterine pregnancy was first successfully used by Dr. J. G. Allen, who reported in 1872 two cases of recovery through its instrumentality. So far, since then, his method, faithfully carried out, has proved uniformly successful, has presented no drawbacks, and all the women are known, from private inquiry, to be enjoying good health at the present time; while of one hundred and fifty cases of tubal pregnancy collected by Hennig only seventeen survived.

The transmission of the current through the ovum has thus been proved a safe and efficient means for destroying the life of the foetus, during the first three months of its existence. The application consists in passing one pole into the rectum to the site of the ovum, and pressing the other upon a point in the abdominal walls situated from two to three inches above Poupart's ligament. The full force of the current of an ordinary one-cell battery should be employed for a period varying from five to ten minutes. The treatment should be continued for one or two weeks, until the shrinkage of the tumor leaves no doubt as to the efficacy of the treatment.

ENUCLEATION OF SUB-PERITONEAL FIBROIDS THROUGH THE VAGINA.

Professor Czerny, of Heidelberg, reports several cases where he enucleated sub-peritoneal fibroids through the vaginal cellular tissue without opening the peritoneal cavity, and others where the peritonæum, being slightly injured, was immediately closed. Some of the fibroids were in the broad ligament and some in Douglas's fossa, while one was between the bladder and uterus. His plan is, by dissecting with blunt instruments, to tear his way to the tumor, and then drag it out, cutting as little as possible. The results were good. The operation has been done a few times only, but he thinks it deserves attention.

Although the cases have not yet been reported, Dr. Marcy, of Cambridge, has twice within eighteen months done this operation, once with great facility and success. In the other instance the peritoneal cavity was opened

through Douglas's fossa, and an ovary removed at the same time with the fibroid, the patient making a less perfect recovery.

As early as December, 1876, Dr. Van Derveer, of Albany, most successfully removed through an incision in the posterior vaginal wall, without wounding the folds of the peritonæum, a fibroid, which he was inclined to consider interstitial.

Philadelphia County Medical Society.

A CONVERSATIONAL meeting of the Society was held at the Hall of the College of Physicians, Philadelphia, April 27, 1881, Dr. Albert H. Smith, President, in the chair. Papers were read by Dr. Roberts Bartholow on "The Therapeutics of Alcohol used Internally and Externally."

DISCUSSION UPON ALCOHOL.

Dr. George Hamilton regarded the nourishment of the patient as the main point in the treatment of exhausting diseases; stimulants might aid nutrition but can not take the place of food. In declining years of life a moderate amount of alcohol may be of service, but in youth it should be used with the utmost caution. The recommendation of Todd had been too closely followed, and he could now see signs of a reaction against indiscriminate stimulation. Typhoid fever is most likely to occur at from sixteen to twenty-one years of age, which also is a very fatal period. The mucous membrane of the alimentary tract being at this age unaccustomed to alcohol, the greatest caution should be observed in giving large amounts of stimulants. It is usually recommended to be given early in the disease, which he regarded as wrong. Even in phthisis it should be used with care. He believed that the physician is often unjustly blamed for having recommended stimulants to persons who form the habit of drinking to excess; and he cited a case where a man was said to have died a drunkard because a certain doctor had prescribed brandy for him. It was subsequently learned that the man was a drunkard before he ever saw the doctor.

Dr. H. C. Wood said that he was reminded that he had forgotten to refer to the use of alcohol as an antiseptic.

In simple alcohol we have an antiseptic agent which is capable of banishing Listerism from surgery, if properly used. He would simply dress the stump with a cloth kept constantly wet with alcohol. No germs could possibly enter the wound, and the remedy is much safer than carbolic acid. He could not admit, however, that alcohol exerts this same antiseptic effect after entering the blood: the protoplasm of the blood-cells is just as delicate as the protoplasm of the micrococci. Such treatment would be like the proposal to kill trichinæ in the muscles by giving the patient picric acid. Before it poisons the parasite the patient becomes translated.

He agreed with the last speaker in condemning the abuse of alcohol as an antipyretic. Alcohol should not be used in a routine manner in fevers, but should be held in reserve. It is of use in low fevers in other ways than as an antipyretic. From a number of calorimetric observations upon animals he had concluded that alcohol had no influence upon tissue-change or the production of animal heat, but does exert an influence upon the throwing out of heat from the blood. The temperature falls because more heat is dissipated, for the same reason that it falls after section of the spinal cord. Vaso-motor palsy leads to a decline in the temperature, whether caused by injury or by alcohol. It is very plain that if alcohol is to be given to produce reduction of heat in this way, it will have to be given in large doses—large enough to produce vaso-motor paralysis and depression, which we do not want caused in low fevers, and therefore can not usually give it to reduce the heat to the normal temperature. As regards the quantity required he would not lay down any absolute rule. He referred to a case in which a man, after a rattlesnake-bite, took about two pints of whisky with only good result—an amount which in health would have depressed the heart only elevated its power under these circumstances. It is so in low fevers. Eight or ten ounces per diem in a low fever may produce no more effect than two or three ounces in health. A young lady suffering with typhoid fever under his care had a pulse of 140. He increased the stimulant until she was taking one ounce of whisky every three hours; but finding it impossible to keep it down below this point, as it was at the rate of 160 at the time of his visit one night, he increased the stimulant to two ounces every two hours. The

next morning it was down to 120. It seems, in some cases of low fever, that an amount of alcohol, which could produce fatal depression in health, may only act as a vital stimulant.

Dr. Addinell Hewson saw something inconsistent in the last speaker's remarks. He had spoken of the effects of alcohol in retarding cell-growth when referring to its antiseptic effect; he had also mentioned an effect upon the blood-cells and in retarding the movements of the white corpuscle. As all tissue-change is dependent upon cell-growth, the speaker did not see how alcohol could influence the cell-movements without at the same time effecting tissue-change. This is the teaching of experience; and it therefore happens that alcohol often impairs nutrition rather than benefits it. The effect of alcohol upon the gastric juice is to precipitate the pepsin. To these facts may be attributed the injurious effects of alcohol in some depressing diseases.

Dr. C. B. Nancrede said that the alcohol-dressing of wounds was an old treatment. He thought that experiments made many years ago by Onimus, of Montpelier, upon animals demonstrated that it was not necessary to import micrococci in order to account for suppuration, showing, in fact, that the circumstances favoring suppuration and those developing micrococci are identical. He thought that there was danger of these experiments being overlooked. Fluids swarming with bacteria, which produced active effects upon the organism, were treated with bromine, chromic acid, and acetic acid, which were found to destroy the power of the septic influence of the fluids, but not the number or activity of the vibrios.

Dr. Toboldt said that he had seen bacteria flourishing in a sixty-per-cent. solution of alcohol, where they remained for more than a year without obvious change.

Dr. Hamilton noticed the diversity of practice. Some physicians say that they can not get along without alcohol in the treatment of typhus and typhoid fevers, and others, on the contrary, never use it at all. If the same results always followed the alcohol treatment, its use would be more general.

Dr. J. T. Eskridge said that no precise rule could be laid down as regards the amount to be used. In one case he had given thirty-six ounces of brandy daily for several days, with successful result. It was in the fourth week of

a relapse of typhoid fever. The patient did not take much alcohol in the first attack, but in the relapse the temperature reached 105° , the pulse 160. Brandy was increased to one and a half ounces every hour, and continued for about six days. The patient finally recovered. As the pulse came down to 110, and the vital forces were restored, the stimulant was gradually reduced.

The speaker also referred to the value of stimulants in atonic dyspepsia, given directly after eating.

Dr. O'Hara had not seen adduced any satisfactory evidence that alcohol is a food. It is not used to nourish young children, nor to build up the strength of prize-fighters when in training. He agreed with the lecturer as to its value in low fevers, where it does seem to supply force to the patient. He regarded the whole question of its food-value, however, as still *sub judice*.

Dr. Bartholow said that he had no doubt whatever that the position taken by the writers that alcohol is in a very limited sense a food is correct, and one supported by the authorities of our time. Of this there can be absolutely no doubt: a substance undergoing oxidation in the organism is in the position of other hydro-carbons in the food. Alcohol is very valuable as a food, for it spreads out over the whole surface of the lungs, where it yields its force very promptly, as it is very readily oxidized.

In regard to its antiseptic action, he could speak of its good effects in preventing local putrefaction. For eight years he had served as military surgeon, and had had charge of several large military hospitals; he therefore spoke of what he had seen when he says that it is entitled, in his opinion, to the place scarcely inferior to carbolic acid. In referring to what had been said in regard to the septic character of fluids independent of minute organisms, he said that it is true that there is a substance different from these bodies which can produce injurious effects; but the speaker had evidently not seen the report of Burdon Sanderson's experiments to the Privy Council, from which the conclusion to be drawn is that minute organisms play a very important part in the production of sepsis, but they are not septic themselves. It is not the minute organisms, but their action, that concerns us, while it is seen that their discussion is a very important subject, as it concerns the development of poisons connected with their presence.

Dr. W. R. D. Blackwood said that from an extended experience as an army surgeon and in private practice, he could endorse the alcohol treatment of wounds. He had not seen better results from Listerism. He had at the present time two stumps under treatment, which had had nothing on them but alcohol. He was perfectly satisfied with the dressing.

Dr. W. H. Parish said that brandy is a very valuable remedy in cholera infantum; cases are lost from not resorting to it sufficiently early. He referred to genuine cholera infantum, and not to entero-colitis. He had found that it would stop the vomiting; he also applied cloths wet with whisky to the epigastric region. Too much reliance is placed generally upon minute doses of calomel, and the brandy is left until it is too late. He agreed with Dr. Bartholow regarding the proper time of administering stimulants and the importance of proper dilution. Hypodermic injections of brandy or whisky in surgical cases lessen shock and the danger of hemorrhage. They should not be given with a view of counteracting the effects of ether, which should never be pushed to its depressing effect in such cases.

Dr. W. S. Stewart noticed that the stimulants in low fevers do not intoxicate the patient, and can not be detected in the breath even after large doses.

Dr. C. H. Thomas said that the question whether alcohol is or is not a food is an important one; but there can be no question but that in many cases it acts like a food. He cited a case of a lady who received a severe nervous shock and was almost insane in consequence. She was constantly vigilant, would take no food whatever, and was rapidly losing flesh: in ten days she lost between thirty and forty pounds. It was determined on the third or fourth day, to give her whisky, of which she took some every hour, amounting to a quart a day. At the end of the tenth day she slept well, and for the first time complained of the amount of whisky, which was rapidly reduced—the next day to one pint, and the following day to half a pint. In a few days more, after she had begun to take food regularly, she could not take a wineglassful of whisky without its flushing her face. In this case alcohol acted like a food, at least until other food could be taken.

Dr. Nancrede said that as a comparison had been made

between the results of local use of alcohol and those of Lister's method, he would say that he was not an advocate of Listerism, but would inquire whether any surgeon in Philadelphia had adopted fully the genuine treatment as recommended by Lister. He thought not. We are therefore not in a position to speak of its results from experience.

Dr. Bartholow, in reply to a question, said that alcohol should not be given hypodermically to relieve the narcotic effect of ether or chloroform, because, having similar physiological effects and acting like them, it will only add fuel to the fire.

Dr. H. C. Wood, in conclusion, said that in regard to the question of alcohol acting as a food in childhood, it is paradoxical but true that if you wish to make a stunted child grow you should use alcohol, and if you wish to stunt a child you can do so by alcohol, simply because small amounts aid digestion, and large amounts disturb it and prevent assimilation. With regard to the non-appearance of alcohol in the breath in low fevers, he would account for it on the ground that the alcohol was used up in the system.

Notes on the Use of Pepsine in Medicine, with Recommendations Regarding Saccharated and Pure Pepsine.

THAT many of the diseases from which mankind suffer during infant and adult life are caused by malnutrition, there can be no doubt; and the extent to which non-assimilation of the life-giving properties of food interferes with recovery from severe illness, baffling the best directed efforts of the physician, points to the necessity of an agent sufficiently potent to replace the deficient principle and aid nature in renewing the degenerated tissues.

Realizing this need, the science of chemistry produced pepsine; and even if medical literature were silent as to testimony of the results obtained, the large amount manufactured and consumed would amply attest its usefulness. But such is not the case; for, after long and careful investigation on the part of practical therapeutists, it is accepted as the remedy *par excellence* in all cases where the gastric juice fails to afford a sufficient amount

of ferment to a reduction of aliment to a condition suitable for healthy assimilation.

As the undoubted value of pepsine as a remedial agent became evident, competition in its manufacture was stimulated; and, as the natural result, the supply was varied both in purity and strength, and the medical profession, while anxious to avail themselves of its usefulness, were nearly as often misled into erroneous conclusions regarding its efficacy, as satisfied with its results—solely in consequence of their misfortune in not using such qualities as were likely to produce the much-lauded effects. Under these circumstances, a definite understanding regarding reliable preparations is desirable and of great importance. Pure pepsine, without acid, thoroughly triturated with finely powdered sugar of milk (saccharated pepsine*), will, without doubt, produce the perfect results in all cases where the remedy is exhibited.

Routh, in his "Infant Feeding," gives an account of a result obtained in the case of an infant. "Small, wrinkled, emaciated, four days old, yet presenting almost the appearance of decrepitude. The voice was weak, but distinct, and respiration not obstructed. The mother was an excellent nurse; but, although the infant took the breast readily, it constantly threw up every meal. What passed through the bowels was unchanged, although slightly tinged with bile. Diarrhœa was also present." The usual external remedies were applied, but without avail. "Emaciation was on the increase; the child was, in fact, dying." At this stage saccharated pepsine was administered, fifteen grains divided into ten powders, mixed with a little of the mother's milk, and after the second day the diarrhœa ceased and the child appeared much stronger. Twenty days of this treatment and the child was quite well. The eminent author adds: "This is a case which speaks strongly to the convictions. If, at so early a period of life, when vitality and digestion were so weak, the artificial pepsine effected a cure, *a fortiori* will it be likely to do so in the case of older children; and so I have found it in practice. The digestive powers

*Saccharated pepsine, free from acid, is prepared by Messrs. Kidder & Laird, No. 83 John Street, New York, who generously furnish samples of this and the pure pepsine, free of charge, upon application.

are thus assisted, and the food, which before was useless, because undigested, readily becomes assimilated."

When administering pepsine, the slight acidity of the natural fluid should be produced as nearly as possible; and as the necessities differ with the circumstances, it is desirable that the preparation be quite free from acidulation, and the proper dose be given in combination with the requisite amount of dilute acid. Of Kidder & Laird's pure pepsine, five to ten grains, for an adult, can, if necessary, be taken in an ounce of water with five drops of muriatic acid.

For infants, however, the saccharated pepsine will be found to yield the most satisfactory results, and the acid should be dispensed with. Quantitatively it represents one-tenth of the strength of pure pepsine; but it has been found to be but about one-fourth less in efficacy. The absence of acid, which would otherwise tend to produce harmful results, will be recognized when it is considered that even the slight acidity of most cow's milk, when used as a food for infants, is sufficient to disagree with them.

With regard to the proper time for its administration, as before or after the taking of food, opinions vary; but reason would suggest that about half an hour before eating will afford the ferment a sufficient time to combine with the existing condition of the stomach, and produce the most natural effect upon the food when it has been acted upon by the salivary fluids in its passage to the stomach.

When once the formation of peptone has been established in the stomach, and as strength is acquired, the system will soon respond toward resuming the natural production of its normal fluids. Thus it is that many of the disorders of digestion which accompany severe attacks of fever, phthisis, etc., and also the exceedingly sensitive condition of the stomach, caused by vomiting in pregnancy and alcoholism, are controlled, and a natural condition resumed.

Having mentioned the necessity of great care in the selection of pepsine, with reference to its purity and strength, it is proper to say that, even with the superior article above recommended, negative results may be obtained, unless attention is given to the form of its administration. Combinations beyond those above mentioned

are not advised, but rather discouraged; as many of the substances usually recommended as efficacious with it are incompatible and render the pepsine inert.

Hygiene of the Laboring Classes.

BY W. J. SCOTT, M. D., CLEVELAND, O.,

Professor Theory and Practice of Medicine, Med. Dept' Wooster University.

THE position which I have held during the last year imposes on me the task of presenting for your consideration some subject worthy of the occasion, and of interest to the profession and the public.

I will, therefore, present for our consideration to-day some conditions involved in the hygiene of laboring people. Many of the trades lead to conditions dangerous to life. This is especially true as the trades are now conducted. I can only refer to some of the more prominent employments, in which great numbers of people are engaged. Take the lead manufacturers, in all their varieties—those who use any lead compounds in their avocations, who use lead instruments in their business, or who may become contaminated with lead compounds in other ways—and see what a host are exposed in these ways to bad influences for health.

Many of these exposures can be entirely abolished by proper knowledge on the part of the workers, or on the part of the employer. Here we have a large class of persons, exposed to the worst possible conditions for health, composed of quarrymen and stonecutters. Some of these influences can be avoided by the application of dresses to prevent the exposure during the time the people are employed. Millers, and persons employed in handling grain, are exposed to conditions which lead to the same sort of disease, equally fatal in proportion to the number employed. Among wood-workers, in all varieties, there is an immense number employed—as you will see if you consider the great variety of those works and manufacturing establishments. This great throng is exposed all the time to the dust and dirt which it is possible to make in such shops. And, consequently, the workmen are exposed to all the worst conditions which can be produced by the manner of doing the work. Those

who have had the planning and construction of such works never have thought for a moment how these conditions could have been improved or prevented, and the health of the operative protected. By proper and scientific attention to these subjects, the mortality can be materially diminished. Similar conditions are found in all machine shops. There has not been the least attention paid in the construction of the works, or the manner of doing the work, to protect the workmen from the ill effects of the trade. There is no doubt that often the improvements which would protect the mechanic would also benefit the business, by having the work better and more promptly done. Intelligence in all mechanical processes improves the trade and the material produced. Then, certainly, anything that would attain so desirable an end for all concerned should be done.

Again, in all places where fiber materials are worked, or manufactured, very little account has been taken as to the consequences which would result to those employed in these processes, or whether bad conditions could have been prevented by better architecture or improved processes in the manner of work. In all such shops, where great numbers are employed and the places must be kept warm and are dirty, the atmosphere becomes exhausted of oxygen, and filled with fiber and animal compounds undergoing change; also, with cryptogamic growths, bacteria, ecchinococci, and what not. In all these places, and they are very numerous, seldom has means been taken to improve the surroundings for the benefit of those employed, either by ventilation or in any other way. The employed, in great numbers, suffer from lung diseases.

Another large class of sufferers is found among metal workers. Grinders and polishers, and workers on emery wheels, are exposed to conditions daily which will surely shorten life; yet neither the architect nor the machinist, who have had the construction of the works, have paid the least attention to this subject, either in the construction of such works or the manner of operating them, looking to the protection or welfare of those here employed; yet it is true that a proper knowledge of mechanics and the principles of natural philosophy, applied, would remove the causes which lead to disease in such works. In many of the processes employed in the manufactory of the substances derived from petroleum, the

men are exposed to the most unwholesome conditions. They are compelled to inhale gases in treating houses, in stills, in paint shops, and in a thousand and one ways, which sooner or later leads to emphysema and heart disease, and to total disability of those employed. These conditions could often be avoided by proper construction of the works, and taking the necessary precautions to avoid these conditions. But when I have suggested my views to the men employed in such works, they have thought, often, that I did not understand making coal oil. Indeed, those who own the works seem often to consider such suggestions as an attempt to interfere with their business. This is true with many trades and works also. When I have suggested to white-lead workers, grinders and polishers, and workers in dust, the propriety of using some appliance to prevent the inhalation of bad materials, they have said to me: "What do you know about grinding?"

I could enumerate other employments of equal importance, and just as destructive to health. Now, I submit the question whether these subjects should not demand our attention, as conservators of public health; and, also, to be in a position to treat the sick and afflicted. The public will also see the importance of these considerations when properly presented to them. From our investigation, I am sure that you must admit that in these many ways our mortality is largely increased, by diseases which could have been avoided by proper scientific attention to these relations.

Then, somebody ought to have the responsibility imposed on him—to see to these affairs, as a State measure for the common good. There often arises a strong opposition from employers, who are ignorant of the importance of this subject, because they think that such restrictions will interfere with the prosecution of business.

Often, also, in manufacturing places men are exposed to dangers to life and limb unnecessarily, by the manner of arrangement and construction of machinery, which could have been differently arranged without interfering with efficiency. Belts, revolving shafts, revolving couplings, fly-wheels, etc., are undefended from all who are necessarily about them and liable at any time by accident, or by carelessness, to be caught and hurt. It is apparent to any person who considers this matter, that most of

these accidents might be avoided by proper and intelligent attention by those in authority.

Especially are objections made in tobacco and segar factories. In these places, no attention is paid to the construction of the works. In all such places where they have an engine, the means of changing the air could be easily arranged, and would greatly benefit the employes. In shoe manufactories similar objections exist, on account of accumulated dirt kept warm, and the hands, who are often numerous, breathing over and over an exhausted and vitiated atmosphere. So often, I would think generally by my observation, the editorial sanctum and composing rooms are not above criticism in these respects, yet from here we often receive homilies, on hygiene and cleanliness, for the instruction of other people in such matters. All these conditions are, as a rule, neglected by those in authority, who have the power to correct abuses—to the very great advantage to the health of people employed in such avocation, and the mortality be much diminished and the welfare of the community promoted, as well as that of the individual. These examples are sufficient to show that the general mortality is greatly increased in these ways, and that by preventable diseases. If we look over mortality statistics as published every week by the National Board of Health, we see that all manufacturing towns have a high rate of mortality, by such diseases as are produced in these ways. The great majority of them probably induced, not inherited—and, therefore, contracted.

There is another source of such diseases very similar in character to those which I have pointed out, which should receive attention from the people first, and then from our profession. It is a fact, I believe, that our people, as such, live better and are better clad than any other nation. Yet I think great numbers, especially of young people comparatively, are suffering from one of the worst diseases by neglect of personal cleanliness, of person and clothing. What I am about to say I mean not as derogatory to the people in the least, but as to their manner of living. It is within the experience of every physician to have some strong and healthy young people come here and go to service in shops and mills, and to know that within a year or two their health fails and they die with consumption. Many of them have a good family history,

so far as can be learned from the subject. I have seen the same class in other places and know that it was uncommon for them to suffer as they do here. I have seen hundreds of them digging in the Ohio Canal, and sleeping in board shanties, without the general health becoming affected in the least, in the way that they are here. All the men employed on the farms in the Scioto Valley are, as a rule, healthy, and they are the same class which suffers here by the score. What makes this difference? Here they live in filthy boarding-houses, with perhaps enough to eat, but they sleep in close rooms, several persons in the same apartment, with their clothes saturated with perspiration; or, when the clothes are removed, they are hung in the same room, or, what is worse, in a small closet to ferment and dry. The decomposition which takes place assists very greatly to contaminate the atmosphere; and thus, day by day, they live in air poisoned with changed animal compounds, until the general health fails, and a cough commences and the subject continues to live in the same way, not thinking or being told that the conditions by which he is surrounded are killing him. It is next to impossible to correct these abuses against proper hygiene. The boarding-mistress would show you the door with her blessing, should you say that her house was not clean, or that it had been kept in such a way as to lead to sickness among her people. Yet I venture the assertion that the odor produced in such places, and under such circumstances, is so peculiar and characteristic that it can be distinguished by the odor imparted to clean clothing kept in such closets, and is so persistent as to remain for some time after they have been removed and even worn away. I have found the same conditions in well-kept private houses, among the help, and brought about in the same way. Very frequently do I meet servants who have come here well and hearty, with rosy cheeks, and, after a few years of service, the health fails, a cough begins, and within the next year they die with consumption. The number who go in this way is not small. Inquire of such persons and often you can not find anything wrong in the family history. These persons are found among girls who work in cellar kitchens and small places, often overheated, and sleep in small, close rooms so as to generate a miasm, which gradually produces the diseases which we all meet so commonly. It may

be said that these conditions act as the exciting cause when brought in conjunction with a constitutional dyscrasia. Then we ought to avoid the cause, when it can be done as well as not. These people suffer in these ways ignorantly, but are always offended if they are told that their afflictions are produced by not taking proper care of their persons and of their clothing. The ladies of mansions are also sensitive if a suggestion should be made that there is anything about the premises not as it should be. From long observation on this question, I am satisfied that there exists in these, fruitful sources of disease. Many times in my clinical experience have I been able to tell by my sense of smell where the patient came from, and what kind of an atmosphere he breathed.

What can be done to correct so grave a condition? Medication does not do much good, the conditions remaining the same. If you venture to suggest to the patient that a warm bath will be of advantage, you will be met with the fear of cold afterwards. If you suggest to a boarding house keeper that a more liberal use of warm water and soap would improve matters, you will be told to mind your own business. If you suggest to a lady that her kitchen and dormitory were poorly constructed, and poorly ventilated, and that her servants consequently are suffering from that cause: "Nonsense," she will say, "my house is in perfect order, and there is no cause of disease about it." So it goes, and the people continue to gradually become sick and die, and nothing is done to correct the evil either by the people or the profession. Thus they perish of a disease which they never would have contracted, had their hygienic conditions been better. I am satisfied that people must be taught to realize these facts, to correct so grave an evil. The correction, in the main, is in cleanliness, and the admission of some of heaven's greatest blessings—plenty of fresh air and sunlight—to blow out and away the stink of putrefaction.

Where rests the responsibility, in all these various relations? Not always with the sufferers, for various reasons. They have not the knowledge of the subject to do so. They have not the means nor the power; they must be just hewers of wood and drawers of water. The responsibility in these discussions must rest somewhere with the architect and mechanics, with the machinist, with operators in business, who are often more ignorant of such

affairs than those employed; and often professional men are too illy informed of the principles of mechanics, and the principles of natural philosophy, to have any definite idea on what can be done to correct bad conditions.—*Ohio Med. Recorder.*

Treatment of Pneumonitis, with Illustrative Cases.

BY P. O'CONNELL, M. D., SIOUX CITY, IOWA.

DURING the past four years the treatment of pneumonitis has been frequently discussed in current medical literature. Several able articles have appeared, from time to time, in the journals, advocating and detailing different and equally successful plans of treatment. The hope that others may try a method which is simple, inexpensive, and easily carried out, with the same gratifying result that I have had from it, prompts me to forward this contribution to the literature of the subject. Possibly the good result attained under very simple treatment may be a coincidence—may be only the natural history of pneumonia and not the result of the treatment employed. Although being *post hoc*, I consider it fairly *propter hoc*. Acute idiopathic lobar (“croupous?”) pneumonitis is referred to in this connection.

The *antipyretic treatment*, in contradistinction to that usually followed by most practitioners in hospital and in private practice, consists essentially of the cold bath, large doses of quinine, and salicylic acid.

The *cold bath* is a very powerful means of abstracting heat from the body. The patient is kept in the bath during ten to twenty minutes or more, or until the temperature is reduced to about 100° F. The bath is always repeated under the personal supervision of the medical attendant, as often as the temperature mounts up to 103° F., or over. It requires frequent repetition, the reaction being often great and sudden, and the effect, therefore, but temporary. It certainly is difficult and troublesome to carry out, and is not seldom attended with some risks and unpleasant consequences. To patients and friends this plan seems not only heroic, which it really is, but positively appalling, and is consented to reluctantly. After fair trial it has not yielded to very good results, and

now has few advocates except among hospital physicians among English speaking peoples. For private practice it is practically useless.

Quinine, in some form, has many more advocates, and deservedly so. It is given by some in grain doses every hour, or five grains every four hours, or ten grains three times a day. Others give twenty to thirty grains morning and night, while a few give forty to fifty grains at once, and do not repeat the dose for twenty-four hours.

At Bellevue Hospital, New York, the cold bath was tried. The result was disappointing, and it was soon given up. Dr. James, of Frankfort, Kentucky, after a fair trial of the cold bath does not think very highly of it. In his opinion the result was not proportionate to the disturbance to the patient, nor to the risks, nor to the labor necessary to carry it out. With it the deaths amounted to seventeen per cent.; with quinine, in large doses, the death rate was twenty per cent.; salicylic acid proved a total failure in his hands. It is but just to say that the above figures were obtained by Dr. James during an outbreak of sewer gas pneumonia, when the mortality will necessarily be high under any and all forms of treatment.

Antimony, for its expectorant and diaphoretic effects, will be beneficial in some cases. Its sedative action on the heart proves very useful occasionally. In strong, vigorous patients I have found it answer well. Children under five years of age can not, of course, safely take it except in rare cases.

Opium, especially when there is much pain, will be both useful and necessary. Diaphoretics and expectorants, to which may be added small doses of opium and sometimes antimonial wine in nauseating or non-nauseating doses, as occasion may require, will often prove a useful combination. Yet, out of a total of sixty-four cases treated by Dr. Thomas Barr, of Glasgow, Scotland, with antimony, opium, diaphoretics and expectorants, or with a combination of these agents, he had a mortality of *one in six* in private practice.

There is quite a unanimity of opinion as to the benefit of external applications to the chest, over the inflamed lobe or lobes, linseed poultices being in greatest favor. Moist warmth is both soothing and agreeable to the patient. Frequently it is all that is necessary to relieve the stitch-like pain. In my opinion it favors and hastens res-

olution. Mustard, turpentine, and even blisters, occasionally, may be required, but not until the consolidation of the pulmonary parenchyma tends to linger.

The treatment which I now practice is as follows: A piece of thick white flannel, loosely wrung out of hot water, is wrapped round the chest and covered with some material impervious to air and moisture, such as oiled silk, gutta percha tissue, or thin oil cloth. If only the lower lobe in one or in both lungs be inflamed, the flannel need not extend higher than the axillæ. But when an entire lung is involved, then the flannel must cover the entire thorax, apertures for the arms to pass through being cut in it. I deem it essential, and, therefore, always insist, that the flannel shall extend completely round the chest and overlap a little, at the ends, on the front of the thorax, whatever may be the extent of the lung tissue involved. The outer air-tight covering should be a little larger, every way, than the flannel, so that the heat may not escape under the upper nor lower edge, nor at the sternum where the ends overlap. In all this there is nothing new. Dr. Flint speaks of it in his Practice of Medicine. Flannel heated and covered in this way retains its warmth quite as long as a poultice. I have, occasionally, used linseed poultices, but give the preference to the hot moist flannel, because it is much more cleanly and less troublesome; it is easily renewed by dipping it again in hot water and loosely wringing it. Besides, few can be relied upon to properly and efficiently make a linseed poultice.

Then genuine James' Fever Powder (*Pulvis Jacobi Verus*), one to five grains every two, three, or four hours, according to age, is prescribed. Five grains, to adults, is the maximum dose employed by me, while one grain can be given to a child under six months. The warmth of the flannel, aided by the James' Powder, soon induces and maintains gentle diaphoresis; the stitch-like pain is relieved; respiration becomes fuller and less hurried; cough grows softer and less hacking; expectoration becomes easy; the temperature steadily declines; the patient soon feels quite comfortable. If pain be very severe, a small hypodermic injection of morphia may be given to adults, although this will, I believe, be rarely required. In the case of children or adults, extract of opium or of belladonna, rubbed up with a little glycerin, may be painted on the skin over the painful part before applying the hot flannel; or tinc-

ture of opium, of belladonna, or of aconite root may be sprinkled on the flannel, whenever the attending physician should judge such useful. Children under five years of age will need an emetic of ipecacuanha once or twice a day, if they do not clear the lungs sufficiently by acts of coughing.

During illness, a light but nutritious diet of good soup, chicken broth, beef tea, and milk with a little bread or crackers, is allowed. If craved, I see no objection to a little chicken, mutton chop, or beef steak broiled. I have permitted such and seen no ill effects result. My chief reliance, however, is placed on milk, which is allowed *ad libitum*. Infants at the breast must depend on the mother's milk. If there be any evidence of prostration or depression, tonics and stimulants are administered. These I rarely had to employ.—*Chicago Med. Jour. and Exchange*.

Coca in the Opium and Alcohol Habits.

BY A. F. STIMMEL, M. D., CHATTANOOGA, TENN.

SINCE the publication of my notes on the use of coca erythroxyton in the cure of the opium habit and alcoholism in the *Gazette*, of April, I have had numerous applications from patients, as well as from physicians, for treatment and advice, in similar cases. As my limited time forbids answer to all of these letters, I have concluded to send my views for the proper use of coca as a substitute for opium and alcohol, in an article in the *Gazette*, with the request to publish it when space permits.

First. The physician has to consider that his remedy must be pure, genuine and fully strong enough to replace the deleterious stimulant. The treatment of those habits is naught but the replacement of one stimulant with another. The second consideration is the condition, moral as well as physical, of the patient at the time of his application for treatment. If the patient comes to me with a determined resolution to reform, I give him nothing but coca, considering then only the amount of his usual dose of opium or alcohol. That is, if a patient takes ten to twenty grains of gum opii every twenty-four hours, I give at once fl. ʒj coca eryth. fl. ext. (P. D. & Co.'s) and hand

him a four-ounce bottle. Fifteen to thirty drops, when there is desire for a stimulant. The patient will not have any overpowering desire for opium, as long as he has his coca, and his confidence in the new drug will grow stronger and stronger every day. If the patient, however, be weak-minded, irresolute, and without any strength of will power (I hope the fair sex will forgive me for classifying them under this head), I generally manage to change his habit of taking morph. sulph. or gum or pulv. opii, into that of taking tr. opii, and afterward substitute without his knowledge for the pure tr. opii (U. S. Ph.) a mixture:

R̄ Coca eryth. fl. ext. fl. ʒ viij
 Tr. opii fl. ʒ vj
 Gentianæ quinqueflor. fl. ʒ ij.

This imparts to the coca the bitterness of opium, and at the same time secures a tonic effect upon the mucous surface of alimentary canal. The mixture tastes and looks like laudanum, especially after being filtered through charcoal to clear it. It is always taken *bona fide* for the old friend. After continuing this treatment till I have entirely replaced the opium by coca, I tell the patient that he is cured. Of course he will smile incredulously, but I persuade him to stop taking the supposed old stimulant, and he is wonderstruck to find out that he can do it.

Alcoholism.—I consider the treatment of this habit harder than that of the morphine and opium habits. Till I had discovered in P. D. & Co.'s coca a reliable preparation (that of S. & D. has failed repeatedly), I used to confine the patient to his room (generally after an attack of delirium tremens), and to withdraw all food and drink except substituting a mixture of one part water and two parts of whisky for the latter, and having everything he did get to eat cooked or prepared with whisky. I generally succeeded in disgusting him with his old consoler, and the cure usually lasted till he was reconciled again. But now I use the following treatment: Having had two cases—one of a middle-aged lady, living in Georgia, from Bordeaux, France, in the habit of the immediate use of absinthe; the other an old gentleman from North Carolina, a great friend of apple and peach brandy (one quart his daily ration)—I gave to the lady spirit frument, fl. ʒ vj, coca fl. ext. (P. D. & Co.'s) fl. ʒ viij, ol. artemis absinthe (wormwood, Swiss) *m* xv; to the gentleman I gave but a bottle of coca fl. ʒ jv. Dose, *ad libitum* when needed. I

succeeded with the gentleman. He reported after one week: "I drink nothing but your bitters, and wish more of it." I gave him coca fl. ext. fl. ʒ xij, spirit frument fl. ʒ j, ol. artemis. absinth. m xv. Report two weeks after: "I am cured, and inclose check, etc." The lady reported: "No success." I wrote, asking name and address of druggist who filled the prescription, and ascertained that he had used "S. & D.'s," but that he had now "P. D. & Co.'s" extract in stock. Report from patient in a week: "Am greatly improved, and take but one ounce of your absinthe bitters each day."

Referring to my statement above, that it is much harder to cure alcoholism than to cure the morphine and opium habits, I am asked why. Because in the one addicted to strong drink there is, in addition to his nervous depression, which calls for a stimulant, a low level of manhood, self-reliance and pride. He needs not only treatment by medicine, but must also be reasoned with. His mind as well as his body has to be controlled. Not that I mean a physician should be a temperance lecturer, or that he should try to exhort and preach. He should, however, show him by his words and actions that in his heart nothing prevails but a deep sympathy for the unfortunate victim of his weakness; he should make the patient believe that he is his best friend. An opium eater, or an inebriate, is more or less of a monomaniac. He has the idea that nothing in the world is worth living for, except the individual has plenty opium or alcohol; at least I have found this to be the state of mind of almost every inveterate morphine eater or toper I have met. They entertain a feeling akin to contempt for those who do not indulge in the woe-soothing stimulants; they consider life as a continued chain of successive links of trial, worry, sorrow and disappointment, and half Stoics and half Epicureans, they try to rough it and still remove the roughness of the road by mind-soothing anodynes. Those unfortunates are lunatics, and I believe in treating them as such. Even as the house physicians, the nurses and subaltern officers of a lunatic asylum must pet their patients and humor their fancies and ideas, so must the physician who treats one of those, standing on the door-step of the mad-house, humor his fancies and never cross them, but govern his tongue, his temper, and even his eyes.

I hope those few hints I have given will be sufficient to

induce practitioners to try the fl. ext. coca in their own practice. If, however, any one of them should meet with difficulties, or not be able to answer one of the questions arising during the course of treatment of those patients, I am willing to help him with the little advice I can give.
—*Therapeutic Gazette.*

Eucalyptus Globulus.

BY D. J. SNYDER, M. D., SCIO, O.

[Read before the Ohio State Medical Society, June 16, 1881.]

ONE year ago I thought I should be able to report to this Society, at its present meeting, the successful growth in this State of the eucalyptus globulus, Tasmanian blue gum, fever, or sainted tree of Australia. I am compelled to acknowledge disappointment and failure. I procured seed from New South Wales, and minute instruction how to plant, and had the pleasure, last autumn, of having several plants over two feet in height, with every prospect of complete success. The severe winter destroyed every one. Why this should be so, I am as yet not able to demonstrate.

The wood of the tree is extremely hard and compact, is capable of a very fine polish, and is indigenous in the island of Tasmania (formerly known as Van Diemen's Land), which lies south of the Australian continent in latitude 40° – 43° , $30'$, South, and 140° East from Greenwich. The winters are colder there than in corresponding degrees of North latitude. In summer the heat is more intense, with less rain and moisture. That the eucalyptus can be successfully grown in the Southern States there is no doubt.

That it has a salutary influence over malarial poisons we have sufficient evidence in the fact that in Algeria and the Pontine marshes, in Italy, where millions of these trees have been planted by order of the different governments, the greatest hygienic success has been obtained. Tracts of country that were deserted, owing to the malaria abounding, are now, since the eucalyptus globulus has been planted, perfectly healthy and occupied.

The French physicians speak in the highest terms of the essential oil obtained from their own trees, showing

that difference of soil, climate and habitat do not depreciate the excellence of this valuable botanical production.

For much valuable information in regard to the description, habitat and general therapeutic value of the eucalyptus, I am largely indebted to Dr. Henry M. Marshall, of New South Wales, of whom I procured the seed. This eminent physician and microscopist, in a communication to the CINCINNATI MEDICAL NEWS, of August, 1878, says: "The eucalyptus globulus, in common with the eucalyptus family, sheds its bark annually, but not its leaves. The bark is rich in tannin and tannate matter. It is an evergreen. All the native Australian trees and shrubs are evergreens. Some of the eucalyptus family obtain a vast size; in height, growth, and available timber outrivaling the famed trees of California." It is a rapid grower when once firmly rooted. In California it is not unusual to see a tree of six years' growth obtain the height of fifty feet. It is best grown from seed, planted where the tree is to remain; or it can be planted in pots, and, when the tree has attained a proper size, be removed from the pots, either by breaking or turning out, taking care to leave all the earth in contact with the roots. It being an evergreen, care must be taken with the transplanting. I have no hesitancy in asserting that, with the aid of a hot-house—where the young plants could be protected from excessive frosts during the first winter, the wood becoming sufficiently hardened during the second summer, they would resist the frosts ever after.

The leaves of the young plants are opposite, broadly oval, and have an agreeable aromatic odor. In the second year they become more oblong, and at maturity are from twelve to fifteen inches long, and from four to six inches broad. The mature leaves have a variety of shades and colors. On the same tree is observed, frequently, an agreeable blending of them. They contain a large amount of volatile oil; so much so that when a green leaf is ignited, it burns as brilliantly as a gas jet. Several cities in Australia are lighted with gas made from the leaves. Scattered where fleas and vermin abound, the leaves will banish them as effectually as St. Patrick, according to Irish tradition, did the reptiles in Ireland.

The antiseptic properties of eucalyptol (the essential oil of the eucalyptus globulus), have been tested to prove

its efficacy. In Australia the medical profession is advocating, and some have adopted, the method of disinfecting the hospitals and other public buildings by growing the eucalyptus in large boxes through the wards and court-yards. The way they do it is to plant the seed in large boxes or tierces, filled with rich, sandy loam, and let them remain until the trees have attained the height of the ceiling, when they are removed and others put in their place. It is claimed by close observers that the experiment has proven highly beneficial; lessening the danger of contagion by the antiseptic properties, and anti-malarial influence.

The medicinal properties of the eucalyptus are reputed to be as varied and specific as those of the cinchona. Dr. Marshall has successfully employed the oleo-resinous product obtained by distillation from the leaves; also, the aqueous infusion and decoction, together with the alcoholic extract of the leaves and small twigs, in the following affections: Acute and chronic articular rheumatism, by accupuncture and rubbing in the distillate, augmenting the therapeutical effect by internal administration. After all other remedies have failed, by administering the aqueous infusion and decoction, assisting the action by half-grain doses of hydrarg. chlorid. mit., he has succeeded in effectually curing dysentery. In bronchitis, the distillate has proved valuable when applied over the thoracic region. Facial neuralgia has yielded promptly to the application of the distillate externally and internally. In croup and diphtheritic affections, swabbing the fauces with a strong decoction has proved very valuable. In malarial affections, the different preparations of the eucalyptus have proved most successful. The essential oil is now being successfully employed in gonorrhea and gleet. Great success in asthma has been attained by means of smoking the leaves as cigarettes.

Much more could be written on the virtues of this remarkable tree; as it has, in the last year, attracted a wonderful amount of attention from physicians and sanitarians.

If any member of the profession would like to make an effort to grow them in this climate, I will cheerfully forward, by mail, pure seed with instructions how to plant.
—*Ohio Med. Recorder.*

MICROSCOPY.

Some Remarks on Desiccated Blood.

BY CARL SEILER, M. D., PHILADELPHIA, PA.

THERE can be no doubt as to the desirability of nitrogenized food in a concentrated form, which is easily assimilated by the system, and is therefore readily retained by a weakened stomach, in the treatment of wasting diseases, and especially in those of phthisis, syphilis and cancer, in which there exists a difficulty, or even total inability, of deglutition. It is here that we require an article of food which shall be so constituted that it can be taken up by the system and utilized for the nourishment of the tissues, without necessarily going through the process of gastric digestion, but which may be absorbed directly either by the mucous membrane of the large intestine, as in cases where it is necessary to feed the patient by nutritive enemata, or by the skin, or, finally, by the mucous membrane of the respiratory tract.

For a number of years past I have experimented with and used the different extracts of beef and malt as they appeared in the market, with variable results in the treatment of laryngeal phthisis complicated with dysphagia, and have lately been induced to try a new preparation, called desiccated blood. The first case in which I used the preparation was one of general debility and want of tone, and one in which, ordinarily, I would have given cod liver oil and beef extracts. The desiccated blood seemed, however, to meet all the requirements, and the patient is apparently improving under it. Two other cases which came under my care at about this time, one a case of phthisis with extensive ulcerations of the epiglottis, making deglutition extremely painful, and the other one of syphilitic ulceration of the larynx, accompanied also by dysphagia, promised to be good subjects to observe the action of desiccated blood in. I accordingly ordered for each an injection into the rectum of one drachm of the blood dissolved in the requisite amount of salt and water, four times a day, while at the same time I ordered inhalations from the steam atomizer of a solution of one-half drachm of the blood in three ounces of salt and water,

and one ounce of glycerin in the twenty-four hours. No other treatment, except local applications to the ulcerations in the larynx, was instituted for ten days. During that time both patients did well, and there was an undoubted improvement in their general condition, which must be solely ascribed to the absorption of nutritive elements from the desiccated blood. The use of nutritive inhalations is, as far as I know, a novel idea, and I was prompted to try it by the fact, which I had observed, that butchers as a rule are strong, healthy men, but are rather poor eaters, and especially do they eat little meat. Thus it occurred to me that they might possibly obtain a sufficient amount of nitrogenized food by absorbing through the mucous membrane of the lungs and the respiratory tract, the exhalations from the fresh meat they handle.

After having thus proved the efficacy of the preparation in three cases at least, I made careful microscopical examinations of the blood, with a view to determine to my own satisfaction whether any fibrine was contained in it; whether the morphological elements of the blood had been destroyed in the process of drying; whether the albumen had been coagulated or was in a soluble shape; and, finally, whether the desiccated blood contained any impurities.

I first made a solution of the preparation in plain water (six drachms to five ounces), and from this prepared a number of slides. A careful search, however, for fibrine bands and blood corpuscles was altogether fruitless, and the field of the microscope was filled with granular masses floating in a slightly colored fluid, the constituents of which could even under the high powers (1-10 immersion) not be resolved into any shape. Besides these granular masses I noticed a number of globules of various sizes, which somewhat resembled small drops of oil, for which I at first mistook them, without being able to account for their presence, except that they might have been introduced during the process of drying the fresh blood. This supposition was, however, not tenable, because even after the solution, from which the specimens had been prepared, had remained quiet for twelve hours, no oil could be detected floating on its surface.

I next made a solution of the dried blood according to the formula devised by Dr. J. G. Richardson, of Philadelphia, which is to dissolve dried blood in a solution of com-

mon table salt in distilled water of the strength of fifty-six grains to the pint. From this solution also a number of slides were prepared, and on examination I experienced no difficulty in finding a large number of blood corpuscles in the field of the microscope. They were of the average size of the corpuscles seen in fresh ox blood, but they had to some extent lost their color, so that they appeared paler than normal, and made it somewhat difficult for me to obtain a micro-negative of sufficient density for printing. Most of them were round, but I saw also a number which were crenated and distorted in shape. I again noticed the globular bodies resembling oil globules, and they appeared to be about twice the size of the red blood corpuscles, although some were larger and others smaller. With a view to determine whether they were oil or not, I introduced various coloring solutions under the cover-glass of the specimens, and found that these globules were brightly stained by most of the aniline colors, but not by carmine or indigo, thus proving them to be something else than oil globules.

In this second set of specimens I noticed in one or two instances a few bands of fibrine and some extraneous matter in the shape of dust, both in very minute quantities.

I next made a solution of the dried blood in some artificial gastric juice, and after it had remained in an incubator for four hours, I prepared specimens from it for microscopical examination. In these I found no trace of any blood corpuscles, but the field of the microscope was filled with a brownish amorphous mass, containing a few minute granules. In none of the specimens examined thus far had I been able to discover any flakes of coagulated albumen.

Finally, in order to find, if possible, the origin of the globular bodies, whose nature I had not been able to determine, I placed the thinnest flake of dried blood I could pick out, upon a slide, and after applying the cover-glass, examined it under the microscope. Nothing was visible but a dark mass, with here and there a faint suspicion of the outline of a blood corpuscle. I then allowed a drop of the salt solution to run under the cover, and watched the gradual solution of the flake. Thus I saw how little by little small masses were loosened from the large flake, and in them the outline of the blood corpuscles became distinctly visible, and these were held together by a straw-

colored amorphous stroma. Presently I noticed that a large globule loosened itself from the stroma, becoming subdivided into smaller ones, in which I recognized the same globular bodies seen in the other specimens. Thus I suspected that they were globules of albumen, which had not been entirely dissolved by the salt solution, and this suspicion became confirmed when I found them to be opaque after the slide had been held for a few moments over the flame of a spirit lamp.

To sum up the results of these observations, I found that the desiccated blood contained very little, if any, fibrine; that the blood corpuscles could be restored to their original size and shape; that the albumen contained in it was in a soluble form; and that there was no extraneous matter present except a small amount of dust.

Thus it will be seen, that on theoretical grounds this preparation deserves extended trial in all cases where gastric digestion is impaired or impossible, for if a solution of it is absorbed by the mucous membrane of the bowels and the respiratory tract, as I have strong reasons to believe that it is, and is thus introduced into the system without having undergone any chemical change, as would be produced by the action of the gastric juice, we will have a species of transfusion of ox blood into the human system. Whether the morphological elements, the blood corpuscles, as such and in the normal condition, can be taken up by a healthy mucous membrane I am not prepared to say, but even if they are not absorbed, the albumen in a state as it is found in healthy blood and the salts of the blood certainly can be absorbed and thus must necessarily aid in the nourishment of the tissues.—*Therapeutic Gazette*.

Fine Rulings.

WE recently referred to "Fasoldt's Test Plate," which it was then claimed contained lines ruled at the rate of 1,000,000 to the inch.

Dr. R. H. Ward, of Troy, N. Y., writes upon the subject as follows:—

"In speaking of the modern microscopic rulings on glass, which have been regarded with so great and deserved an interest by all physicists, one can not be too careful to discriminate fully between those that are known to be ruled

and those whose ruling has been attempted but not yet demonstrated. It is self-evident that, in attempting to rule lines 5,000,000 to the inch, a band may be produced which does not consist of lines of that degree of fineness. There is no difficulty in arranging a machine to draw lines, theoretically, of any required degree of closeness. The register of a ruling engine can be so arranged and subdivided as to indicate a spacing at the ruling point of one-tenth million of an inch as easily almost as of one-tenth of an inch; but it may well be doubted whether such fine motion is actually imparted to the diamond point, or could be recorded upon the surface of the glass. It is becoming common to hear the higher bands of Mr. Fasoldt, claiming up to 10,000,000 lines to the inch, spoken of as actually ruled, and only waiting an objective to reveal them. Such an error, made inadvertently by persons who would avoid it by a little reflection, as made in the last number of one of the most popular microscopical journals, gives a lasting as well as erroneous impression to non-scientific persons. Mr. Fasoldt's rulings are certainly remarkable, and the lower bands are ruled with great success; but how far up the scale they continue to be ruled as distinct lines is certainly at this time an undecided question."—*Royal Microscopical Journal*.

Microscopical Examination of Blood in the Diagnosis of Disease.

For the purpose of these investigations, M. Hayem recommends the use of a cell thus constructed: a thick plane glass slide has a disk made on it of about 4 mm. in diameter; the rest of the slide is silvered; a small drop of blood is placed on the disk and is covered by a thin cover-glass, so that a layer of uniform thickness is obtained. A little saliva placed round the edge will prevent any evaporation.

When blood is treated with a mixture of 200 grammes of distilled water, one gramme of pure chloride of sodium, five grammes of sulphate of sodium, and half a gramme of pure bichloride of mercury, the blood-corpuscles are separately isolated and distinguished from the other constituents. The fibrine then breaks up into two distinct groups.

Perfectly normal blood, thus treated, shows the following reactions. At the moment when it coagulates it is traversed by very delicate network of filaments. If at the moment of coagulation a reticulum of thick fibrillæ is seen, we may be sure that we have indications of an inflammatory lesion, and the modifications in the processes of coagulation are due to the extent and intensity of the inflammation. Pyrexia is not accompanied by any appreciable modification of the fibrine; but when fevers are complicated by inflammatory process there are such modifications. In small-pox they only appear with the suppurating fever; in scarlet fever and scarlatina the fibrine only augments at the period of desquamation. So again, in typhoid and intermittent fevers the so-called phlegmatic characters only appear when the disease is complicated by inflammation.

When cachectic conditions are not the results of chronic diseases, which bring about inflammatory lesions, the reticulum of the pure blood generally remains invisible, or is obscure, notwithstanding the unusual abundance of hæmatoblasts. Examination by the aid of the solution already described, shows, however, that the fibrine is allied; in advanced cases one often observes the so-called "plaques cachectiques," due to the infiltration of the hæmatoblasts by a finely granular substance, which points to a qualitative change in the characters of the fibrine.—*Royal Microscopical Journal.*

GLEANINGS.

SURGICAL EXPERIMENTS UPON THE DOG.—Much light can often be thrown upon severe surgical operations by first attempting them upon some of the lower animals. Operations connected with the abdomen have been studied in this way with especial frequency. At the last meeting of the German Surgical Congress, Dr. Gluck, of Berlin, related certain experiments which he had made. He had removed the bladder, urethra and penis of dogs, and had sewed the ureters into an opening in the abdominal wall. The animals recovered and remained well and comfortable. He found, however, that when the ureters were sewed into the rectum, the operation would not succeed, and the animals died.

The same experimenter was successful in removing three inches of the sciatic nerve of a hen, and in substituting a piece of the sciatic nerve of another animal in place of that removed.

A VEHICLE FOR SALICYLIC ACID.—A pleasant and agreeable method of administering salicylic acid is as follows: Take Oswego corn-starch one tablespoonful, to be thoroughly rubbed up in several ounces of cold water. Add a quart of milk, set on the fire, and stir until the mixture has boiled sufficiently to become homogeneous. The addition of sugar and essence of vanilla or lemon will give a delicious blanc-mange. Twenty grains of the salicylic acid can be rubbed up in a mortar with a cupful of the blanc-mange, which may be eaten warm or cold. The acid taste is entirely disguised, and a medicine irritating to a healthy stomach can be safely administered in combination with a nutritious but light food to such patients as are in need thereof.—*Dyer, in Louisville News, Oct. 8.*

A NEW œsophagoscope, with which a person can view the lining membrane of the œsophagus, and perhaps catch a glimpse of the mucous membrane of the stomach, has been manufactured by a London firm recently, and has been successfully used by Drs. Morrell, Mackenzie, and others.

The part inserted into the œsophagus is composed of two narrow, flat, parallel bars, which are connected by rings. When the instrument is introduced, the bars lie close together. After introduction they are sprung apart, and a tube is formed. At the upper end they join at an angle with the handle. At this angle a large laryngoscopic mirror is affixed. By it the light is reflected down into the stomach.

PROCEEDINGS OF SOCIETIES.

Proceedings of the Miami Valley Medical Society.

THE Miami Valley Medical Society met in regular semi-annual session at Loveland, Ohio, June 7, 1881, at 10 o'clock A. M.

The President, Dr. E. J. Tichenor, of Lebanon, called the

meeting to order. The minutes of the last meeting were read and approved.

Dr. A. Morris, of Goshen, reported the death of Dr. T. Thacker.

On motion, Drs. Morris, Kennedy and Carmichael were appointed a committee to report suitable resolutions.

The following officers were elected by the society for the ensuing year: President, S. S. Scoville, Lebanon; Vice-President, A. Morris, Goshen; Secretary, W. A. Carmichael, Loveland; Treasurer, L. W. Bishop, Loveland.

Censors. { W. Wise, Wilmington.
L. Pompel, Cozaddale.
J. L. Combs, Boston.

The following gentlemen were elected to membership: Dr. S. J. Spees, Hillsboro; Dr. T. C. Quinn, New Vienna.

Dr. Wise, of Wilmington, reported a case of post-nasal catarrh, in a scrofulous subject, which lead to a lengthy discussion, participated in by Drs. Drake, Trimble, Spees, Stevens.

Society adjourned to 1:30 P. M.

The society was called to order at 1:30 P. M.; Dr. S. S. Scoville, the president, in the chair.

Dr. Darby, of Morrow, proposed a substitute for Mistura Glycerrhizæ Comp. or Brown Mixture as follows:

| | |
|--|-----------|
| R _y . Antim. et Potass. Trt., | gr. iv. |
| Aq. Camphoræ, | ℥ j. |
| Aq. Fœniculi, | ℥ vij. |
| Liq. Morph. Sulph., | ℥ i. |
| Ext. Glycerrhizæ, | ℥ vi. |
| Syr. Simp. } | |
| Mucil. Acaciæ, } | aa. ℥ vi. |
| Alcohol, | ℥ j. |
| Spts. Nit. Dulc., | ℥ i. |

Dr. Darby recommends the above for its more elegant appearance and in consequence of its less liability to change by keeping. The formula was endorsed by the society.

Dr. Sidwell, of Wilmington, read a paper entitled, "Our Profession."

The society, on motion, tendered Dr. Sidwell a vote of thanks for his excellent paper.

The afternoon was spent in the discussion of various topics.

The Committee made the report on the death of Dr. Thacker, as printed below.

In the evening the society and citizens of Loveland assembled in the Presbyterian Church, where they were entertained by a lecture delivered by Professor Thad. Reamy, of Cincinnati; subject, *BROKEN HEART*. It is only necessary to say that the members of the society were *delighted*, and the citizens more than pleased, and request us to have *such lectures frequently*.

TRIBUTE OF RESPECT TO DR. TOWNSHEND THACKER.

Dr. T. Thacker, of Goshen, died of Typhoid Pneumonia, April 19, 1881, in his 62d year. He studied medicine with Dr. Isaac Thacker, now of Defiance of this State, and after attending one course of lectures, began practicing in Rochester, Warren Co., in 1842. The next year he moved to Boston, Clermont Co., where he remained a number of years engaged in regular practice.

In 1850 he graduated at the Medical College of Ohio, and soon after located in Goshen, where he continued to reside until the time of his death. He soon acquired an extensive practice and remained actively engaged in the work until the spring of 1869, when, on account of failing health, he retired from active practice and turned his attention to drug business. Many of his old patrons, however, still insisted on having the benefit of his services, and he did quite a large office and consultation practice.

In 1877 he disposed of his drug store, and, once more entering on the active duties of the profession, remained at his post until prostrated by what proved to be a fatal sickness.

Dr. Thacker was, in many respects, a man of more than ordinary ability. His knowledge of medicine was accurate and thorough, and extended to all its branches. In the natural sciences he was thoroughly at home. His knowledge of the languages was remarkable for one whose life lay in another direction. He seldom met a patient of any nationality with whom he could not communicate in his native tongue, and it has been said by those qualified to speak, that his knowledge of Greek and Latin was more critical than that of many of the professors in our colleges. Yet, with all these attainments, he was so diffident, and had such a dislike for anything like display, that it was only in the freedom of private conversation that one fully realized his nice qualities of mind. As a practitioner he was judicious, safe and conscientious,

giving his patient the benefit of his best skill and judgment; noted for his coolness in the midst of excitement, and fertile in his resources to meet emergencies. In his intercourse with his patients he was kind, patient and attentive; toward his brother practitioners just and honorable. He was especially considerate of the tyro in medicine, and the new beginner could safely call him in consultation without fear of undue advantage being taken of his inexperience, and could rely on his counsel and assistance.

In all his relations to society he was upright and honorable—in a word, he was, in the true sense of the term, a Christian gentleman.

Dr. Thacker has been a member of the Miami Valley Medical Society since its first organization, and was at the time of his death its vice-president.

Therefore, for the purpose of expressing the esteem and respect in which our deceased brother was held by its members, be it

Resolved, That in the death of Dr. Thacker we are called upon to mourn the loss of an esteemed and zealous member of our society and profession, and the public an upright and worthy citizen, whose many virtues, goodness of heart, and gentlemanly bearing, fully entitled him to the respect and esteem of the community in which he lived, and all who knew him personally;

Resolved, That as a mark of respect for the deceased and of our deep sense of the loss which the public and the profession have sustained, that a copy of the foregoing be placed on the minutes of this society;

Resolved, That a copy attested by the secretary be transmitted to the family of deceased as an expression of our sympathy and condolence.

Resolved, That an attest copy be forwarded to the editors of the CINCINNATI MEDICAL NEWS, *Lancet and Clinic*, and the Clermont Co. papers, with a request that they would cause them to be published in their papers and journals.

| | |
|--------------------------|--------------|
| A. MORRIS, | } Committee. |
| J. C. KENNEDY, | |
| W. A. CARMICHAEL, | |
| W. A. CARMICHAEL, Sec'y. | |

Loveland, O., June 7, 1881.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

ATTEMPT AT ASSASSINATING THE PRESIDENT OF THE UNITED STATES.—Of course all of our readers are aware of the dastardly attempt to take the life of President Garfield, made on the morning of July the 2d, by one Guiteau, a villain, who had been disappointed in obtaining a paltry office, for which he was not qualified. The whole country, in fact, the whole civilized world was shocked by the act, and is still in a terrible state of suspense as regards the final recovery of the President from the terrible wound received.

Although the readers of the **MEDICAL NEWS** have read the newspaper accounts of the shooting of the President by Guiteau, in the Baltimore and Potomac Railroad Depot, at Washington, we have no doubt they will be interested in the recital of Dr. Townshend, published in the Maryland *Medical Journal*. Dr. Townshend was the first physician called to the President after the infliction of the wound, and, according to the Code of Ethics, and according to every principle of honor recognized among

gentlemen, should have had charge of the case until the physician of the President, Dr. Baxter, arrived; but, in some way, which will no doubt be explained in due time, he was superseded by a Dr. Bliss, of Cundurango memory, who still has charge of the case.

Dr. Townshend's account is as follows:

WASHINGTON, D. C., July 6, 1881.

Editors Maryland Medical Journal:

GENTLEMEN—I have your letter of the 4th, asking a statement of the President's case so far as my observation went. So much has been said and written on this subject that I fear but little interest will attach to anything I may recount touching my experience therewith. I was called to the President's side about 9:25 o'clock, on the morning of the 2d inst., some four or five minutes after the wound was received. When I found him, the shock had just resulted in a faint, and slight vomiting had occurred. Pulse at wrist was not discernible. His head had been considerably elevated. I immediately ordered his head lowered, and prescribed aromatic spirits of ammonia and brandy. As soon as this medicine arrived I administered a dose, and it effected an immediate revival. Chief Engineer Cronin, of our fire department, came in at the moment, told me he had a fast horse at the door, and asked me what he could do. I instructed him to drive as quickly as possible for Dr. Baxter, who, I understood, was the President's physician. I asked the President, then, where he felt the most pain, to which he replied: "In the right leg and foot." I asked him the character of the pain, and he replied that it was a prickling sensation. I thought this at the time was a premonitory symptom of paralysis, and judged there must be some injury to the spine. The President was, at the time, lying on his back; and, as I understood that the wound had been received in the back, I asked him if he could turn over. He responded, promptly, "Oh, yes, sir;" and, suiting the action to the word, did turn upon his face. This action on his part reassured me somewhat, and I immediately went to work to get at the wound. His clothing had been loosened from the front; and, lifting his shirt, I found where the bullet had entered. The wound was located about two inches to the right of the fourth lumbar vertebra, between the tenth and eleventh ribs.

I made only a hurried examination at that time, not attempting, of course, to trace direction taken by the bullet, but merely to ascertain locality and nature of wound. My impression at this time was that the wound was necessarily a fatal one.

I had the President turned upon his back again, and he inquired what I thought of his condition. I gave him an encouraging reply, of course, but I fear he was not much encouraged.

Noticing that the crowd was continuing to press around and in upon the wounded man, I deemed it best to have him removed to some more private apartment, and accepted the offer of Supt. Sharp of a private and comfortable room on the floor above in the depot building. I then had him placed upon a mattress and conveyed up stairs. Upon getting him into the room on the second floor, I noticed signs of returning exhaustion and again administered a stimulant. This revived him, and he requested to be taken to the White House. Shortly after this time Drs. Purvis, Bliss and Woodward arrived, and, acting upon the President's request, a hurried consultation was held, and it was decided to remove him to the Executive Mansion. He was accordingly carried down, placed in an ambulance, and Dr. Bliss and myself accompanied him to the room in which he now lies at the White House. He was considerably exhausted upon arrival at the White House, and complained of severe pain in the right hypogastric region, and a disagreeable tingling sensation in both lower extremities. Upon consultation, a hypo-

dermic injection of one-sixth of a grain of morphia and one ninety-sixth of atropia was decided upon and administered. It was then decided not to disturb the President further until three o'clock, at which hour another consultation was ordered, and it was expected that an attempt would then be made to locate the bullet. At three o'clock he was found to be still suffering much pain. Another hypodermic injection of morphia and atropia was given and examination adjourned until the next consultation, which was called for seven o'clock. In the meantime lime water and milk was administered to allay nausea.

Just previous to the time set for next consultation Mrs. Garfield arrived, and her being introduced into the President's room delayed proceedings until eight o'clock, when an attempt was made to trace the ball. Surgeon-General Wales, of the navy, made the examination and found, by introducing his finger, that the ball had entered the body about two inches to the right of the fourth lumbar vertebra, between the tenth and eleventh ribs, fracturing the upper edge of the eleventh rib and passing through the lower portion of the liver. It could not be traced further. Another consultation was called for seven o'clock in the morning, but upon a visit made at eleven o'clock that night, I found his symptoms had grown alarming. Pulse was 158, respiration 35, and temperature $96\frac{1}{2}$. We all thought, at that time, that the President could not live until morning. In the morning, when the consulting board convened, we found a great change for the better. The President was still suffering from pain in the lower extremities, and another injection of morphia was administered.

He continued to grow better during the day, and I understand his favorable condition has kept up since.

That was the last time I was called in consultation. Yours, very truly,
212 4 $\frac{1}{2}$ Street. SMITH TOWNSHEND, M. D.

The reason of Dr. Townshend's dismissal from the case, when it rightfully belonged to him until the arrival of Dr. Baxter, the President's physician, will no doubt be investigated at the proper time, as it should be. Dr. Baxter was out of the city at the time of the attempted assassination, but presented himself at the White House on the second day, we believe, in order to take charge of his patient. He met Dr. Bliss and asked to see the President. Bliss forbade his entering the room where the President was lying, and when he explained that he was the President's physician, and had called in consequence—having been away when the accident happened—Bliss, using some very insulting remarks, ordered him away.

In a recent issue of the *Medical Record*, of New York, is an interesting communication by Dr. Faneuil D. Weisse, Prof. of Practical and Surgical Anatomy, devoted to some surgical reflections and anatomical observations bearing upon a possible course of the bullet that wounded President Garfield. It is illustrated by a cut, exhibiting the external appearance of the wound. All of our readers are aware that the bullet from the assassin's pistol did not pass through and out of the body, but, up to the present

times, continues lodged in the body, and it has not yet been demonstrated positively at what point it is located. The conjectures are numerous as to its location, some of which seem very plausible. Nor is it certain yet just what organs were injured, and especially whether or not the bullet passed through any part of the liver. At first, the physicians in attendance had no doubt but that the liver was wounded, and some thought that the bullet was lodged in it. But, at this time, many are of the opinion that it has escaped unhurt.

As the experiments made by Dr. Weisse, and described by him in the article in the *Record*, to which we have alluded, and the reflections and inferences founded upon them will be interesting to our readers, we take the liberty to quote largely. Dr. Weisse, after quoting the bulletins issued by the attending physicians, from the time of the wounding to July 5th, says:

Besides these official bulletins, it had been stated, prior to July 4th, that the wound was located between the tenth and eleventh ribs, four inches to the right of the median line of the back; that a finger introduced into the wound had felt that the eleventh rib was fractured; that at another exploration the finger had felt the substance of the liver; that a probe had been passed in a distance of three inches. By the two latter examinations the direction of the wound was found to be downward and forward.

On July 4th I made a careful analysis of the symptoms that had presented up to that date, with the following result:

First.—A pistol-wound was located between the tenth and eleventh ribs, four inches from the median line of the back.

Second.—Upon receipt of the wound the President fell, or rather sank, down to the right, not losing consciousness.

Third.—Vomiting occurred as he fell, which had continued from time to time.

Fourth.—Within five minutes alarming failure of heart's action occurred.

Fifth.—Immediate pain of right leg and foot, of the nature of a prickling sensation.

Sixth.—Hemorrhage from wound, though not excessive.

Seventh.—Lowering of the temperature to 96.8° during shock.

Eighth.—Equable, almost normal standard of respiration.

Ninth.—Pulse fluctuations from slight causes.

Tenth.—Pains in legs and feet.

Eleventh.—Slight tympanites.

TABLE OF SEVENTY-FOUR HOURS FROM RECEIPT OF WOUND.

| | | TEMP. | PULSE. | RESP. |
|---------|-----------------|---------|-------------------|---------|
| July 2, | 9:25 A. M..... | | Almost pulseless. | |
| " | 4:0 P. M..... | 96.8 | 124 | |
| " | 11:00 P. M..... | 99 | 124 | 20 |
| July 3, | 1:00 A. M..... | Normal. | 120 | Normal. |
| " | 10:00 A. M..... | Normal. | 114 | 18 |
| " | 11:00 A. M..... | Normal. | 106 | Normal. |
| " | 6:00 P. M..... | Normal. | 108 | Normal. |
| " | 10:30 P. M..... | 100 | 120 | 20 |
| July 4, | 12:30 A. M..... | 99.8 | 112 | 20 |
| " | 8:15 A. M..... | 99.4 | 108 | 19 |
| July 5, | 8:30 A. M..... | 100.5 | 114 | 24 |
| " | 12:30 P. M..... | 101 | 110 | 24 |

Negative evidence existed which seemed to exclude injury having been inflicted to either of the following parts:

First.—An artery or vein of any considerable size.

Second.—The pleura, or lung.

Third.—The diaphragm (at a point where it is covered by pleura or peritoneum).

Fourth.—The right kidney.

Fifth.—The spinal cord.

Sixth.—The ascending colon, where not covered by peritoneum.

From the President's good general condition up to that time, there appeared a chance that the peritoneum and the organs invested by it—liver, stomach, small intestine, large intestine, and spleen—had escaped injury.

Of the symptoms developed up to July 4th, the fifth and tenth seemed to point to an injury of the right sacral plexus, as the area of distribution of the right great sciatic nerve was the first location of the pains, etc., while the pains of the left leg and foot would seem to have been developed subsequently.

The third and fourth symptoms, in the light of the localizing ones just stated, become contributive in adding weight to the possibility.

It remained to determine how a bullet, entering where the President was wounded, could escape injuring the right pleura, the right lung, the diaphragm, the peritoneum, the liver, the right kidney, the ascending colon, the small intestine, or the spinal column, and the life of the wounded person be spared, by deflection of the bullet in such a peculiar way as to reach one or more of the nerves that contribute to the sacral plexus.

It seemed to me possible that the bullet had penetrated the tissues superficial to the eleventh rib, impinged upon the rib with sufficient force to fracture it, which force was enough to turn the ball upon its axis, so as to point downward; thence it was deflected downward, forward and inward; that it had pierced a subpleural portion of the diaphragm (if at all), passed to the anterior surface of the transversalis fascia, posterior to the convex external border of the right kidney, passed through the adipose tissue behind the kidney and ascending colon, following the curve, downward and inward, of the plane of the anterior surface of the muscle-wall of the lumbar region; that it had passed into the iliac fossa, upon the iliac fascia, the posterior part of which it traversed in a direction downward and inward, till it reached the psoas magnus muscle; that it either perforated or passed posterior to the psoas magnus muscle to reach the sacral plexus of nerves, the trunks of which, one or more, it wounded.

The bulletins of July 5th strengthened my convictions that my theory had some ground of plausibility. To the symptoms which had developed up to July 4th, there had been added: 1st, muscular soreness of lower extremities; 2d, tenderness to the touch of the lower extremities. Of the symptoms of the 4th there had subsided: 1st, the vomiting at 8 P. M., on July 4th; 2d, the spasmodic pains of lower extremities; 3d, less tympanites.

On July 6th I determined to investigate, by actual dissection, the possible track of the wound, whether, anatomically, such a course could be taken by a bullet. I obtained a British bull-dog revolver and the No. 44 cartridges, to determine what kind of a wound of entrance the bullet would make in a human body, its penetrating power at a distance of eight feet, and how much diminution of force would be effected by impact upon bone.

I found upon examination that, as a weapon, its inherent defects were such as to make it one which lacked precision in firing, and diminished the force of the ball. That the cartridge also presented certain peculiarities, which, when it was fired, would tend to diminish its penetrating power, and cause a great expenditure of its force upon impact upon any resisting surface.

I fired into a subject several times, and determined the wound of entrance and exit as both smaller than I expected.

I would here say that no attempt was made to so fire as to repeat the wound inflicted upon the President—that would be impossible—and then track the ball, so as to determine the course it had taken; nor was the attempt made to make the ball so penetrate as to take the possible course advanced.

A few shots enabled me to obtain all the information I wanted, viz.: that a bullet from a British bull-dog revolver suffers a great expenditure of force by impact upon a bone; that at the instant of its impact it turns upon its axis; that if its force is still sufficient to carry it on flatwise through the bone, it makes a large hole in it, splinters it, and carries the fragments before it into the tissues beyond; that if it simply fractures the bone, it is either deflected or stopped in its course.

At the point of wound the following conditions would favor the occurrence of deflection.

The eleventh is the most movable of all the ribs, being free at its anterior end and not steadied, as is the twelfth rib, by a muscle attached to its lower edge. The conditions favorable to deflection by impingement upon and fracture of this rib are: 1st, the mobility of the rib makes it like a hickory twig fixed at one end only, and its swaying upon impact would expend a good deal of the force of the ball; 2d, the external surface of the rib, being convex, tends to deflect a ball (of all bones of the body a rib probably deflects balls most often); 3d, if the eleventh rib is pushed inward from behind it rises anteriorly, and if a ball struck it with sufficient force to fracture it, it would be likely to turn the ball on its axis, and deflect it downward and inward, if already spent; 4th, the clothing of the President must also be considered as an element contributing to diminish the penetrating power of the ball before it reached the rib, but I have no data with reference to the clothing.

Had the ball been turned on its axis, and still had sufficient force for onward progression, it would have crashed through the eleventh rib, splintered it, and carried forward the fragments of bone directly into the viscera beyond. Deflected upward, it would have wounded the lung. Deflected forward along the rib, it might have passed into the abdominal parietes.

Dr. Weisse proceeds to state that he obtained a well-developed subject, six feet high, which he suspended so that the feet rested on the floor. A twelve-inch trocar, one-fourth of an inch in diameter, was made to enter the cadaver exactly at the point of the President's wound, penetrating at a right angle. The object of this was to pin the tissues and organs together, so as to steady them during the progress of dissection, which he proceeded to make. The account of the dissection, however, is too lengthy for us to copy it, and consequently we omit. We quote from the article further on as follows:

On the morning of Thursday, July 7th, I called upon Professor Frank H. Hamilton, M. D., and stated to him my theory of the possible deflection and course of the ball, giving him my reasons therefor. I then asked him to give me a detailed statement of all the facts in the case at the time of his visit to Washington. This he kindly gave me, and, among other symptoms, stated that the President had called attention to a peculiar sensitiveness of the skin of the right side of the scrotum. An injury to the ilio-hypogastric and ilio-inguinal nerves, which lie in the supposed track of the ball, according to the theory advanced would account for this peculiar sensation. Injury to the sacral plexus would also account for it. En-

couraged by Professor Hamilton, I repeated my dissections on July 7th, and he made an appointment to be present at a demonstration of the same on the following day. On July 8th, I obtained several cadavers resembling the physique of the President, and at two P. M., in the presence of Professor Frank H. Hamilton, M. D., Dr. George F. Shrady, and other professional gentlemen, I repeated the dissections, pistol-firing, etc.

The following letter explains itself:

My Dear Doctor—I have from the first sought to encourage you in your present line of study; not because I had by any means determined in my own mind the course of the bullet, but because it seemed proper to determine anatomically all the possibilities in the case. I also encouraged you to give your results to the profession through the secular press, in order that they might more promptly be subjected to the criticism or approval of medical men. Yours truly,

FRANK H. HAMILTON.

July 11, 1881.

A special application of the above anatomical observations to the appreciation of the President's wound must take into consideration his peculiarly robust physique.

The mass of fat located on the anterior surface of the posterior portion of the transversalis muscle and the quadratus lumborum muscle is probably, in the President's body—judging from his physique as pictured and described—from one and a half to two inches thick. This fat is continued, to a certain extent, in such a well-nourished organization, into the iliac fossa as well.

Given a bullet that has, by impact upon and fracture of the right eleventh rib, been deflected downward and forward into this layer of fat behind the external border of the right kidney, it is not difficult to conceive how, with its already expended force of progression, it could continue in the direction of least resistance through the adipose tissue, taking the inclined curve downward and inward of the anterior surface of the muscle-mass of the lumbar region into the iliac fossa; perforate the fascia in the sulcus between the iliacus internus and psoas magnus muscles; or perforate the latter muscle, and so reach the lumbo-sacral cord, or one of the sacral nerves in the right half of the pelvis, and thus inflict more or less injury to one of the contributing trunks which form the sacral plexus.

Here I would state that it was repeatedly observed by myself, and verified by Prof. Hamilton and Dr. Shrady, that a finger on the sacral plexus could be felt by rectal examination.

The fact that the ilio-hypogastric and ilio-inguinal nerves—usually the latter—distribute to the scrotum, and that they cross the possible track of the bullet, presents a most important element in the anatomical solution of the case. It will also be remembered that the skin of the scrotum is supplied from the sacral plexus by the perineal branches of the pudic and inferior pudendal branch of the lesser sciatic.

A difficult anatomical point to determine presents in the case of fracture of the eleventh rib, viz.: to appreciate the oblique line of pleural reflection from the costal wall to the diaphragm from behind upward and forward.

Had it been the twelfth rib that was fractured, there would be no difficulty in eliminating the inferior limit of the reflection of the pleura from the diaphragm, in case of deflection downward and forward.

For the purposes of this case we must consider the diaphragm as divided into a pleural and subpleural portion, relative to the line of reflection of the pleura from the circumference of the arched thoracic base to the superior surface of the diaphragm.

A man of the robust physique and ample chest of the President has a powerful diaphragm, with a large mass of subpleural muscular structure posteriorly. He has a large, heavy liver. His lungs are in a constant

state of distention, amounting to that of full inspiration of a less powerful physique. The upper edge of his right kidney is probably on a line with the lower border of his eleventh rib.

In walking, the weight of his liver would hang forward away from the posterior wall and still further tend to depress the diaphragm and increase the thickness of its subpleural portion.

In walking his pleural reflection opposite the vertical line of the bullet-wound would be at the eleventh rib, to the median line side of the wound of entrance.

After the President had recovered from the shock caused by the infliction of the wound, and symptoms of immediate danger had passed by, he commenced to improve and continued to improve until the morning of Saturday, July 23d. So constantly favorable and uninterrupted had been the progress until the time mentioned, that every one had begun to think that convalescence had commenced. The situation the Friday night previous was the most cheerful since the shooting. It began to be discussed among surgeons whether the members of the Cabinet could not see him on Saturday, and it was about settled that they might call on Sunday.

Suddenly there fell upon the universal satisfaction over the situation the rumor that the President had been taken with a chill, and that his symptoms were very alarming. It was ten o'clock Saturday morning when the unfavorable news began to spread in Cincinnati.

It seems that those watching through the night at the White House were looking for the usual satisfactory morning condition. The usual preparations for dressing the wound, and the examination previous to the daily bulletin, were in progress when a chill manifested itself, and became almost at once so pronounced as to cause the dressing of the wound to be postponed. The surgeons were at a loss to account for the sudden change. The delay in the bulletin made all who were waiting in the White House uneasy, and in a short time the facts of the presence of the chill became known from the sick-room and spread over the whole country. Dr. Hamilton, of New York, and Dr. Agnew, of Philadelphia, were telegraphed to, to come on at once. Those two eminent surgeons had been called in consultation soon after the President was wounded. Dr. Hamilton was given a special train at New York, consisting of a locomotive and coach, and was carried, at the rate of a mile a minute, to Philadelphia, where Dr. Agnew joined him at the depot, and

they were both taken on to Washington, reaching there in the evening.

The first news was that Dr. Agnew had performed a favorable operation to relieve a gathering of the pus, and that the surgeons were well satisfied with the result and the condition in which the operation had left the President. The examination which led to the operation had revealed the existence of a pus cavity, three or four inches within the wound. This was reached by an incision made about three inches below the opening of the wound. At a depth of a little less than two inches the cavity was reached, and the accumulated pus was discharged.

This cavity is described as a partial abscess, formed at an evident change in the direction of the track of the ball, and the cut now gives a more direct discharge from the deeper portions of the wound than the opening where the ball entered.

The operation was very quickly and skillfully performed by Dr. Agnew. The President did not desire to have ether administered, and the cut was made without it, though some external appliances were made use of to reduce the pain. After the operation the President's pulse went up to 112, but his general condition soon began to improve. He was kept most of the day under partial effect of narcotics, and the rest and quiet proved very beneficial.

The evening bulletin was regarded as quite favorable.

Dr. Hamilton said after it was issued that he regarded the President's condition as eminently encouraging, and that he could not express more in a long talk. Dr. Reyburn said at the same time that he had regarded the President as back where he was before the relapse, with the exception that there had been a loss of strength. The case seems to be capable of being summed up in the statement that a small abscess has appeared and been successfully removed, without serious results to the patient.

Dr. Agnew stated to a Philadelphia newspaper reporter:

When I arrived at Washington I found the President looking very much the same as when I saw him last. I could see very little change in his general appearance. I regard the President now as in about the condition he was before the incidental feature of an abscess showed itself. The chances of his recovery are good, but he is not removed from danger. I think it possible that some change may take place in his condition later, which will indicate the location of the bullet. We can not tell any thing about it just now. There may be another chill, resulting from the condition he has just

passed through, but unless something transpires growing directly out of the presence of the bullet, there is no other complication looked for in his case. There were evidences of the old wound healing, but now he has another wound to heal besides. In this his wonderful stamina and vigor will be greatly to his advantage.

On his return from Washington a reporter called on Dr Frank H. Hamilton, when the following conversation took place, which Dr. Hamilton requested should be reported *verbatim*:

"How was it," asked the reporter, "that the deposit of pus which has caused all this recent trouble in the President's case was not discovered sooner?"

"It was discovered," answered the Doctor, "by the gentlemen in attendance, and that was the reason that they sent for Dr. Agnew and me. They would have opened the abscess themselves had they not thought the duty a very responsible one, and that it will require but a few hours for us to reach there."

"How does this complication affect the President's chance of recovery?"

"Not very materially. Of course, it produces an impression upon his system, but other similar obstructions and complications may ensue, and still not cause serious alarm."

"It has been suggested, Doctor, that a series of these abscesses or lateral pus pouches might be apprehended all along the track of the wound. Is that to be feared?"

"They are not likely to occur because this one has occurred, and the chances are more than equal that similar pouches will not be formed at all. This one had a special cause—the irregular projection of the fractured rib."

"Has anything further been discovered as to the course of the ball and its present position?" continued the reporter.

"Yes, I think that there has. The presumption seems to be, from certain indications, that the ball lies in the right iliac fossa."

"Did it enter the peritoneum?"

"It is doubtful whether it did."

"Did it enter the liver?"

"I do not think it did, although the evidence at first, as presented to the gentlemen in attendance, was very conclusive that it had entered the liver, and they are very accurate, experienced, and observing men. The suppuration will now be watched with great care, and every expedient, mechanical and otherwise, will be adopted to convey disinfecting fluid to the bottom of the sac and wound, and thus render innocuous the pus which may form."

"What do you think, doctor, about the chances of the President's recovery?"

"I still think they are more than equal, more especially since I have had an opportunity of seeing him."

"Is the President changed much since you saw him last? Does he appear to be weak?"

"He is not much changed in appearance; not so much as many patients would be under similar circumstances. Instead of being weak when he saw me in the room yesterday morning (I was standing at the head of the bed, the better to observe what was going on), the President put his hand back over his head to take mine, and said, cheerfully, 'How are you, doctor, this morning?' The stories of his weakness are, therefore, groundless."

"Could the President bear a second operation?"

"I think he could bear six operations or more of the character of the one just performed. That was only like removing a boil."

"What evidence has there been of pyæmia?"

"None at all."

At the time of our writing the President seems to be on the road to a final recovery. How long that will be, of course, it is difficult to state. Four weeks have elapsed since the shooting, and he is reported to be very weak. No one is admitted to his room but the physicians, nurses, and a few members of his family. His diet consists largely of fluids. He has taken, at times, a little solid food, but we believe it has generally been at the expense of an increase of fever. The pulse has been, if rightly reported, down to 86, but its usual range is 96 and 98, with evening exacerbations, when it mounts to over 100. The thermometric range is from 98° to 101°, averaging a tenth or so over 99°. The flow of pus continues uninterrupted, since Dr. Agnew's operation, with only temporary blocking up, which is immediately manifested by an increase of fever.

For present information, and for the purpose of reference hereafter, we will copy the dispatch which we find published in the *Gazette* of July 30th, Saturday morning. It is dated from Washington, July 29th, and was probably sent late in the evening from Washington. The *Gazette* reporter is Gen'l Boynton, a gentleman well known as reliable. The dispatch states: "The official bulletin issued at 7 o'clock this evening announces that the President has been comfortable and cheerful during the day, which fully expressed his condition and the progress since the bulletin of last night was issued. He rested well during the night, and the bulletin this morning showed that the rise in the pulse and temperature reported last night was due entirely to causes natural to the serious nature of the injury. The temperature continued normal until late in the afternoon, the pulse ranging between 92 and 98. About 6 this evening the usual febrile rise appeared, but was not so marked as yesterday, and after the wound was dressed, there came a considerable abatement in the pulse and temperature. At 8 o'clock the pulse was 98, and temperature 100, a decline in the former, as compared with last night, of six beats, and in the latter of one and a half degree. The wound acted satisfactorily during the day, the pus discharging freely, and in a quantity that is regarded as amply sufficient.

"The President is gaining strength daily, a fact which is indicated by the decided improvement in his appear-

ance as well as his demands for increased quantities of food. To-day he asked the surgeons when he might expect to cease taking spoon victuals, and expressed a desire for substantial food. He is still kept on a liquid diet."

As a matter of interest to our readers, we publish in full an editorial from the *Lancet*, of London, of date of July 16, precisely two weeks after the attempted assassination of the President, on the subject. Of course the editorial is previous to the relapse of the 23d.

What has resulted in the condition of the President, shown by the chill on the 23d, confirms the statement of the *Lancet*, that he will not be out of danger until the wound has ceased to suppurate and has healed up. When the reports of the progress toward convalescence were the most favorable, we always replied to the questions of lay friends, as to the probabilities of ultimate recovery, that the President would not be out of danger until he was fully recovered. All medical men can understand that there is danger of absorption of pus or septic matter, with all of its consequences, so long as suppuration continues. Every day diminishes the danger, yet it will continue until the wound has healed.

THE ATTEMPTED ASSASSINATION OF PRESIDENT GARFIELD.

ALTHOUGH nearly a fortnight has elapsed since the occurrence of the dastardly attempt on the life of the President of the United States, and the daily papers have published pages of telegraphic reports of his condition, it is important to "make haste slowly" in drawing scientific conclusions from brief bulletins and scraps of conversation. The world moves so fast that it was almost at once decided by the public that if a fatal termination did not come on within the first week recovery was certain, and the interest in the case has notably flagged. We shall, doubtless, before long be in possession of all the scientific details of the case, and meanwhile we are compelled to speak with some hesitation upon the points of the case which seem worthy of attention. It is well to separate the ascertained facts of the case from the inferences drawn by those in attendance. The facts are few. The bullet is known to have entered the back on the right side of the spine close to the vertebræ, between the tenth and eleventh ribs, to have struck and slightly fractured one of the ribs, and to have been then deflected to the right. Its further course is mere inference so far as the telegraphic dispatches inform us. The primary shock was severe, and even alarming, but reaction set in, and for several days there was a freedom from all bad symptoms, but the temperature remained pyrexial, and the wound has suppurated. The renal and digestive organs have not shown any signs of injury. The most important inference that has been drawn is as to the course taken by the bullet. It is notorious that unless the course can actually be demonstrated, it is impossible even when apertures of entrance and exit are present, to assert what it has been in any given case, and the difficulty is still greater when only one aperture is presented. The further fact that by a superficial exploration it was found that the ball struck a rib and was deflected by it, renders it hazardous in the extreme to conclude that it passed forward

through the liver. So far as our evidence goes at present, there is nothing against the assumption that the bullet has passed along the rib and between the muscular planes of the abdominal wall; while the absence of free hæmorrhage, of jaundice, and of peritonitis, although not conclusive, are facts strongly in support of this view. Further, if the ball has taken a course straight forward it must have pierced the pleura and diaphragm, as well as the liver and peritoneum, and there is no mention of any sign or pneumothorax, pleurisy, or injury to lung, in our present information. A wound of the liver, although greatly adding to the danger of the injury, by no means renders the case hopeless, as the sixty-two cases quoted in the *Medical and Surgical History of the War of the Rebellion*, and many other facts, show. And the special risks of such a wound—hæmorrhage and peritonitis—may fairly be considered to be past. The dangers now to be feared are suppuration along the track of the bullet and blood poisoning. The former is caused by the bruising of the edges and walls of the wound, and by the irritation of foreign matters carried in by the bullet. We are told that this process is established, and that the discharge is so abundant that the dressings require removal twice in twenty-four hours. Much depends upon whether the suppuration is occurring all along the path of the bullet, and whether the outlet for it in its whole course is free and unimpeded. An abundant external discharge is no sure guarantee that the deeper parts are efficiently drained, and if the ball has really traversed the liver and peritoneal cavity—which we see no reason to believe—and is lodged in the wall of the abdomen, there is great risk indeed of pocketing of matter and suppurative peritonitis; while if the course was that suggested above the danger is rather of purulent infiltration between the abdominal muscular parieties. The persistent pyrexia, and the rise of temperature after the first week (to 102.8° on the tenth day), and the quickened pulse, are facts which are only too suggestive of some deep suppuration without free external vent, and are sufficient to cause anxiety, and entirely negative an unqualified hopeful prognosis. In reference to the question of blood poisoning, it has to be borne in mind that its cause is absorption of some product of decomposing animal material. This decomposition may be excited by foreign matters introduced at the time of the injury—clothes, etc., but not the bullet—or allowed access to the wound subsequently. Against such dangers, we are told, the surgeons in attendance are using the precaution of applying the "antiseptic dressing." Unfortunately, this is a vague term; it may mean much or little. Certain it is that no external application of carbolized gauze would have any influence upon septic material deep in the wound, if such there be; and it is most misleading to the public, and unjust to Listerism, to assert that the mere use of an antiseptic dressing "will secure immunity" from "the decomposition of the discharges and their absorption into the circulation." Gunshot wounds differ so materially from common accidental or surgical wounds, that we can not argue from the one to the other. The pain in the foot and ankles complained of by President Garfield must, no doubt, depend upon some injury to nerve-trunks close to the spinal cord, and it is well to remember that no nerve going to the foot arises higher than from the second lumbar nerve, which lies considerably away from the supposed track of the bullet. The questions connected with this problem are such that they can only be discussed with advantage when we are in fuller possession of the actual facts. Meanwhile we must refuse to join in the general sense of assurance as to President Garfield's recovery, and would urge that such assurance is quite out of place until the temperature is persistently normal, suppuration has ceased, and the position and harmlessness of the bullet ascertained. That such a condition may speedily be established is our earnest hope, and the latest news is such as to encourage us in that hope.

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ORIGINAL CONTRIBUTIONS.

The Indigenous Diseases of Wyoming Valley.

BY J. B. CRAWFORD, M. D.

Read before the Luzerne County Medical Society, Pennsylvania.

THE duty was assigned me, at the last meeting of our Society, of opening a discussion to-day upon the subject of our "Endemic Malarial Diseases." The time which has intervened between the last meeting and this has not only been brief, but it has been a period of unusual labor in my ordinary professional duties, and I have therefore had but little opportunity for investigating the subject of this discussion.

The paper which I have now to present is but little more than some rough notes which I have jotted down at brief intervals, and amid frequent interruptions. I regret that I have not been able to give this subject the careful study, and the close, consecutive thought that a matter of so much interest and importance demands. I trust, however, that my own deficiencies will be more than compensated for by the other members who are expected to take part in this discussion.

The air, which was designed for the respiration of the higher forms of animated beings, contains in its pure state:

| | Weight. | Volume. | } Specific gravity, 1,000. |
|-------------|---------|---------|----------------------------|
| Oxygen, . | 23, | 21. | |
| Nitrogen, . | 77, | 79. | |

A trace of carbonic acid and a varying amount of vapor are always found diffused through the atmosphere, but are not supposed to vitiate it in any degree, or to render it less

adapted to the purposes of respiration, or to the maintenance of health. "Bad air," therefore, or "malaria," designates, in its broadest sense, some adulteration or changed condition of the atmosphere, or some admixture of noxious materials therewith, rendering it unsuited to the respiratory requirements of the animal system; or of exciting therein those aberrations of vital function which we call disease.

As this term "malaria" is generally used by the medical profession, and as it is usually understood, it designates an atmosphere vitiated by the emanations of low, swampy or marshy grounds, produced either by the effluvia of decomposing vegetation, the gaseous exhalations of a marshy soil, or by the minute spores of cryptogamic plants; and the effects of which are seen in the various forms of intermitting, remitting and continued fevers.

On a former occasion I stated to this society my reasons for believing that this form of malaria is produced by the spores of fungiferous vegetation. I need not, therefore, now enter into a discussion of the subject of malarial poisons, or the sources of malarial diseases in the sense that these subjects are generally understood throughout the world, and by the medical profession.

The terms in which my allotted task for to-day is expressed, "Indigenous Malarial Disease," would seem to imply the idea that there is in the atmosphere of our locality some peculiar quality, or material, differing in its nature, and varying in its effects, from the marsh-tainted atmosphere of other malarial districts; that we have around and among us a class of diseases deriving their origin from a vitiated atmosphere, yet differing in respect to the symptoms which they present, or to the poisons that produce them, or in both, from the malarial diseases of other localities.

It will be well, therefore, at the outset of this discussion, to carefully survey the locality in which these peculiarities may be supposed to exist; to take a bird's-eye view of its conformation and surroundings; to observe whatever may serve to exert a deleterious effect upon the health of its inhabitants; and to study those impalpable, yet potent morbidic agents that may be engendered by the peculiar conditions that surround us. The city of Wilkes-Barre and its neighboring towns are situated in a valley, or rather basin, closely surrounded by hills, which

vary in height from eight hundred to one thousand feet. The bottom of this basin is, in the main, level; the soil alluvial, in some parts consisting of a coarse gravel, but mainly formed of a sandy loam. A few marshes of small extent are found within its borders, and a limited portion of its surface consists of a clayey loam. A river of considerable size, with a moderate but not sluggish current, passes through its longest diameter. Abundant springs of pure water flow (or rather once did flow) to the surface in every portion of the valley. Numerous streams glide down the mountain ravines, and empty their currents into the Susquehanna. Such is, or rather was, the topographical character of Wyoming Valley. Beneath its surface and extending far up on its contiguous mountain sides are rich deposits of anthracite coal. The processes of mining and utilizing this coal, and the industries which have been developed in connection therewith, have wrought extensive and important changes, not only in respect to population, to water supply, and to drainage, but have changed the constituent elements of our atmosphere in many and important respects.

3. I am informed that previous to the construction of the North Branch Canal, and the building of a dam across the Susquehanna River at Nanticoke, ague and remitting fevers and the other forms of miasmatic diseases were unknown in this valley; but that their occurrence immediately followed the construction of these works. For several years subsequently each summer and autumn brought an annual epidemic of chills and fever; and this yearly recurrence of miasmatic disease has been seen in the vicinity of Nanticoke up to the present time. But, as is usually the case, the succeeding cold weather of autumn and winter checked or destroyed the epidemic influence, and a period of comparative healthfulness ensued. The miasm which produces this endemic disease seems to be engendered by the successive flooding and drying of a considerable portion of the soil situated contiguous to the village of Nanticoke, caused by the dam which I have mentioned.

But there are other and more important particulars in which the salubrity of our atmosphere or our locality have been interfered with. In order to properly estimate these it will be necessary to consider somewhat in detail the sources, the amount, the composition, and the effects of

the various gaseous products of anthracite coal, as well as of the various other contaminating agencies affecting not only the air which we breathe, but likewise the water which we drink.

Issuing from various portions of the surface of our valley are streams of carbureted hydrogen. This is evolved in immense quantities in every portion of the coal fields, and is generated in some of our coal mines in quantities so great as to be past computation. I am informed by the Superintendent of one of the coal mines within our city limits, that the quantity of this gas which is being constantly evolved within that mine is so great that, if the appliances for its removal were arrested for the short space of fifteen minutes, the life of every person within the mine would thereby be endangered. This gas consists of:

| | Atoms. | Weight. | Volume. | |
|-----------------|--------|---------|---------|-----------------|
| Hydrogen, . . . | 2, . | 24.6, . | 2, . | } sp. gr. .562. |
| Carbon, . . . | 1, . | 75.4, . | 1, . | |

This gas is most dangerous in consequence of its explosive qualities, and is properly known as fire damp. It is, of course, unsuited to the purposes of respiration, but is not directly poisonous in its effects. The worst consequences of its inhalation probably result from the adulterated, or rather the diluted, condition of the atmosphere produced by its presence. As its specific gravity is much less than that of air, it becomes speedily dissipated. It is not probable that this substance seriously vitiates the atmosphere, except in the way of rendering it less invigorating, and thus lowering the force of the vital powers.

Within the boundaries of Wyoming Valley there is annually mined about eight million tons of coal. About twenty-five per cent. of this amount, or two million tons, is consumed as wastage, and is piled up in numerous places about the mines. These culm-heaps, as they are called, have accumulated for many years, and it would be difficult to estimate the amount of this material which exists in almost every portion of the valley. These great mounds (they sometimes amount almost to mountains) are now nearly all on fire, and the amount of coal thus undergoing combustion is at least equal to the annual accumulation of refuse, or about two million tons. In addition to this it is estimated that about three hundred and seventy-five thousand tons are annually consumed for domestic, manu-

facturing and other purposes within the valley. Besides these we should take into account the vast amount of coal undergoing combustion within the mines. I have no means of estimating accurately the amount of coal that is thus consumed, but it has, probably for several years, amounted to considerably more than half a million tons annually. Thus we see that about three million tons of anthracite coal are being yearly consumed within the area which we are considering, and that nearly all of it is undergoing a slow and imperfect combustion. This amounts to about eight thousand and two hundred tons of coal daily consumed in this manner, and, of course, diffusing its noxious products through the atmosphere.

Besides carbureted hydrogen, the gases evolved by the combustion of anthracite coal are carbonic acid, sulphureted hydrogen, sulphurous acid, and carbonic oxide.

Carbonic acid is composed of:

| | Atoms. | Weight. | Volume. | } sp. gr. 1.528. |
|---------------|--------|---------|---------|------------------|
| Oxygen, . . . | 2, | 72.73, | 1, | |
| Carbon, . . . | 1, | 27.27, | 1, | |

This gas, although containing a larger proportion of oxygen than atmospheric air, is still unsuited to the purposes of respiration. The oxygen which it contains, being chemically combined by complete combustion, is, therefore, incapable of entering into new combinations in the capillaries of the lungs, and of decarbonizing the blood. It does not seem to be directly poisonous, although animals die when placed in it about as quickly as if placed under water, and in a very similar manner. There is this difference, however: an animal placed under water for a short time may be resuscitated after being removed from that fluid; but an animal being placed in carbonic acid, and having once inhaled that substance, is usually incapable of resuscitation. The reason probably is, that the specific gravity of carbonic acid being much greater than that of atmospheric air, it is consequently retained in the air-cells of the lungs, thus effectually preventing the ingress of air, and causing death by asphyxia. Even when largely diluted it is still capable of producing most noxious effects.

I have already stated that a small proportion of carbonic acid is everywhere found mingled with the atmosphere. This proportion is usually from three-tenths to four-tenths of one per cent. Whenever the proportion rises much

above this the atmosphere becomes unwholesome. When it reaches even three per cent. it is wholly unfit for respiration. When it reaches five per cent. it is highly dangerous to life to breathe it even for a short time; and when its proportion is increased to eight or ten per cent. it becomes suddenly and certainly fatal.

The high specific gravity of this gas prevents its rapid dissipation, and renders it capable of being forced in a concentrated state, by air currents, in any direction, and to considerable distances. It must, therefore become pretty generally diffused, in varying proportions, throughout our atmosphere. The effects produced by this gas in a pure or in a concentrated state are well understood; but the effects produced by it in its more diluted forms are probably not so well ascertained. It seems to exert its deleterious effects by preventing the due oxydation of the blood, and thus manifesting its morbid power in disturbances of the nervous system. Headache, vertigo, fainting, nausea, pains in the loins, lethargy, palpitation, etc., are generally mentioned as characteristic effects of its inhalation. The severity of these symptoms must, of course, depend upon the quantity inhaled, as well as upon the nervous susceptibility of the person afflicted. I have no means of estimating the amount or the proportion of this gas which is present in the air of this valley. It doubtless varies greatly with other varying conditions of the atmosphere. Its general tendency is to accumulate near the surface, and in the lowest spaces. But this tendency may be overcome by wind currents, by heat, and by the tendency which all gases have of mixing together, or of diffusibility; and it may in this way become mingled with the atmosphere in more elevated locations. The amount of coal undergoing combustion about us is such as to indicate that an immense quantity of this gas is being constantly mixed with the atmosphere that we are required to breathe; such an amount, indeed, as must seriously interfere with the health and vigor of those who constantly respire it.

Another of the gases evolved by the combustion of anthracite coal, and the effects of which we have to consider, is sulphureted hydrogen. This is composed of:

| | Atoms, | Weight. | Volume. | |
|-----------|------------|----------|---------|------------------|
| Sulphur, | . . 1, | . 34.15, | . 1-6, | } sp. gr. 1.174. |
| Hydrogen, | . . 1, . . | . 5.85, | . 1, | |

This is an exceedingly active poison. Thenard states that atmospheric air which contains one-fifteen-hundredth part of its volume of this gas will destroy a bird; one-eight hundredth part of it will destroy a dog, and one-two-hundredth-and-fiftieth part of it will kill a horse. Taylor, in his "Medical Jurisprudence," says, "Sulphureted hydrogen gas, when breathed in its pure state, is instantaneously fatal. It exerts equally deleterious effects upon all orders of animals and upon the textures of the body. It has been known to destroy life even when allowed to remain in contact with the skin." As this gas is generated by the combustion of coal, it is usually accompanied and mixed with sulphurous acid gas [S. O. 2]. The effects of each of these gases are very similar, both in respect to the symptoms which they present in the living, and in the lesions found, as a result of their inhalation, on *post mortem* examination. The effects produced by these gases in a pure state, as well as in a state of moderate dilution, are also well understood. Works on medical jurisprudence abound in instances of death produced by them in a concentrated state, as well as of the *post mortem* appearances presented by their victims. In cases of fatal inhalation of these gases, the symptoms usually noticed are purple lips, lividity of countenance, surface of body cold, hands and nails purple, inspiration quick and short, pulse small, quick and feeble, pupils fixed and total insensibility. The *post mortem* appearances usually observed are congestion of membranes of brain, effusion of fluid under the arachnoid, sinuses gorged with blood, lungs congested, and right cavities of heart engorged. The consequences resulting from the inhalation of these gases, in their more dilute form, must vary in their intensity, as well as in the character of the symptoms produced, according to the amount inhaled, the proportion of the noxious materials, as compared with the respired air, the vigor and susceptibility of the person affected. The results in these cases of slow, constant and partial poisoning have not been studied with the care and precision which their importance demands, and I apprehend that their damaging effects upon public health are not adequately understood and appreciated even by the medical profession. As an illustration of the powerful effects of these gases upon the lower forms of life, I may mention that, during a period of thirty years, which I have practiced

medicine in this valley, I have never once seen a case of psora, or itch, which originated within our anthracite coal field; nor have I seen one which, having been brought here, did not speedily recover without medical treatment. This disease, as is well known, is produced by a minute insect, which burrows in the skin. Sulphurous gases have long been known as an efficient remedy for this disease. It is evident that our atmosphere contains a sufficient amount of these gases to effectually destroy this insect. This is one of the compensations which we enjoy for being compelled to respire an unwholesome atmosphere; but it forcibly illustrates the important changes that may be wrought within our bodies by agents whose presence, or even whose existence, is unsuspected.

Another contaminating ingredient of our atmosphere which is engendered by the combustion of coal, is carbonic oxide. It is composed of:

| | Atoms. | Weight. | Volume. | } sp. gr. .975. |
|-------------|--------|---------|---------|-----------------|
| Oxygen, . . | 1, | 56.69, | 1.2, | |
| Carbon, . . | 1, | 43.31, | 1, | |

We have already seen that carbonic acid consists of one atom of oxygen and two of carbon. Carbonic oxide contains one atom of oxygen and one of carbonic. In its formation, therefore, but one-half as much oxygen is abstracted from the atmosphere as in the former, but its effect in vitiating the air is far greater than that of carbonic acid. Carbonic acid, as we have seen, exercises its deadly power by choking or obstructing the air cells of the lungs, and preventing their gress of oxygen. Carbonic oxide is a deadly and rapid narcotic poison. All atmosphere containing only one per cent. of this gas will destroy life in a few minutes, and in its pure state it is almost instantaneously fatal. It passes rapidly into the blood. In an animal which inhaled air containing ten per cent. of this substance for thirty seconds, the blood was found to contain four per cent. of carbonic oxide, and a diminished proportion of oxygen. The blood is brightened in color by its inhalation, as it is darkened by the effects of carbonic acid. This bright color is very permanent. It has been observed to continue for three weeks in animals which had been subjected to its influence. Its mode of action is supposed to be the reverse of that of carbonic acid—that is, it produces its poisonous effects by preventing the arterial blood from becoming venous, while car-

bonic acid poisons by preventing the venous blood from becoming arterial. In animals that have died from the effects of this gas in a diluted state, there has been observed an engorgement of the muscles of the heart, a congested state of the brain, and an anæmic condition of the spleen. But when life has been destroyed by the inhalation of this substance in a pure state, death has ensued so rapidly that very few *post mortem* appearances were produced. This gas is generated, like carbonic acid, by the combustion of coal, or the oxydation of carbon. It, however, is the product of an incomplete combustion, and the oxygen concerned in its production is only half as great, in proportion to the carbon entering into the combination, as in the case of carbonic acid. The slow combustion constantly going on in the culm heaps would seem to be especially favorable to the formation of this gas. This combustion goes on, for the greatest part, with but a very limited amount of oxygen; and much of it takes place under circumstances which admit of only the smallest supply of oxygen that renders combustion possible. Wherever the air has free access to the burning material, carbonic acid, as well as sulphurous acid and carbureted hydrogen, are produced; but in a slow and imperfect combustion, where the temperature becomes high, and where atmospheric air finds limited access, as in the interior of a burning culm pile, carbonic oxide and sulphureted hydrogen are evolved in the greatest abundance. Thus it will be seen that the combustion, which is so extensively going on in the culm heaps all around us, furnishes just the conditions which are most favorable for the evolution of the greatest quantity of noxious gases, as well as of gases of the most noxious kinds, that the combustion of coal is capable of producing.

In addition to the contaminating agencies contained in our atmosphere that I have already described, there are other products of decomposing materials about the air of our city which should not be overlooked when investigating the sources of our epidemic diseases. We have, within a limited area, a population of considerably more than twenty thousand. We have a flat and even surface, with little natural drainage, and that little, for the most part, artificially obstructed. We have had, until very recently, an almost entire absence of sewerage, and we still have only a very limited extent of it. The few sewers which

have thus far been constructed discharge their contents on the margin of the river, in close proximity to the most populous portion of the town, leaving their decomposing materials to generate fetid and noxious gases along the entire river front of the city—polluting alike earth, air and water along its whole extent. But by far the larger portion of our city has not, and never has had, any sewerage whatever. Contained within the soil, in old wells, and in cess-pools, and in some places festering upon the surface, is the accumulated filth and nastiness of a century—a century of neglect, indifference to, and defiance of natural sanitary laws. Far less neglect of sanitary measures than is here seen has spread death and desolation through many a town and city. In view of the persistent and reckless neglect on the part of our inhabitants, or our authorities, to provide for the protection of their health or the prevention of disease, it seems the *imperative duty* of the medical profession to urge and to insist upon the adoption and the speedy execution of some efficient measures for the purification of our city. In the light of the history and experience of other cities, it seems strange that the people of Wilkes-Barre have hitherto escaped the penalties and the pestilence which persistent neglect of sanitary laws must sooner or later engender. It is criminal folly to attempt to ignore the fact that the atmosphere we are breathing is largely made up of materials that are highly injurious to health, that were never designed for respiration, and that the great quantities of carbonic and sulphurous gases that are constantly being mixed with the air around us, which proper prudence can greatly diminish, together with the exhalations of the immense amount of decomposing matter, which can be, and long ago should have been, removed and rendered innocuous, must necessarily produce, and does produce, an atmosphere better suited to the respiratory requirements of the extinct saurians of the carboniferous age, than for the respiration of human beings.

I regret, as much as any one can, the occasion and the necessity that exist for the utterance of such observations as I have made. We of the medical profession will, no doubt, profit pecuniarily by the continuance of the state of things which I have described. But it is our *duty* to view these things just as they are, and whether it be agreeable or not, to tell the people of this town what must

be the consequence of a further neglect of some general and efficient sanitary regulations. It is high time that a thorough system of drainage and sewerage was adopted which will carry away the refuse of our city, and render the air about us incapable of contamination from such a source. It is high time that measures were taken to prevent the accumulation of culm in the vicinity of our city, and especially within its boundaries. The present system of its disposal is a shameful waste. The world needs, and at no distant day will need still more, every pound of that material which is now made to subserve no better purpose than to poison our atmosphere and destroy our health.

I have thus passed in rapid review what seem the most apparent, tangible, and obvious sources of malarial diseases which exist in this locality. We have seen that some of these gases, which are always abundant in our atmosphere, are directly destructive to the tissues of the body, as well as to the corpuscles of the blood. Their presence in the atmosphere, therefore, in any proportion, must necessarily render it more or less unfit for respiration. The effects of its inhalation must in all cases be damaging—varying in degree, not in kind, between the mildest and the severest consequences that it is capable of producing. All agree that there is a general prevalence of some atmospheric influence in this vicinity which depresses vitality and engenders disease. During the entire year—whether it be wet or dry, hot or cold—there is a general and a constant complaint of “*malaria*.” The “epizootic” in its day, or the “Tyler gripe,” was not more universal in its sway than is this prevailing influence which everybody feels or fancies, and designates “*malaria*.” I have no doubt that this term has often been used indiscriminately to designate ills which have but little connection with atmospheric influence. It has become with us a fashion, or habit, to attribute every ill-feeling to this rather indefinite source. Intemperance, gluttony, exposure, dissipation and excesses of every kind produce everywhere a prolific brood of physical and mental ills, from which our population is by no means exempt. All these are usually called by anything but their proper name, and find a convenient receptacle in this general but rather indefinite term—this general diagnostic dumping ground—“*malaria*.”

There is, however, a numerous class of diseases prevailing in our vicinity which doubtless *have* their sources in

the atmospheric poisons of which I have spoken. It is quite uncommon to meet with a resident of this city who will tell you that he feels thoroughly and uniformly well. He will usually tell you that he feels an unwonted degree of oppression or of languor; that he has backache, headache, neuralgia, nervous irritability, capricious appetite, impaired digestion; that he is peculiarly sensitive to cold, or that he has slight chills; in short, that he has "*the malaria*," and that he has been taking quinine. He will also tell you that he always feels better when away from home; that even a short residence elsewhere always improves his condition, and that the beneficial effects of even a few hours' respiration of the pure air of our mountains are plainly and unmistakably felt by him; but that his former symptoms are again gradually but surely developed by a return to this locality. Are the symptoms so generally felt and complained of in our vicinity, which I have here enumerated, as well as the more severe forms of our endemic diseases, produced by the same agents or poisons which produce the malarial diseases of other localities? Or, are they engendered by the adulteration of our atmosphere with the noxious gases which are produced by the peculiar conditions which surround us? Do the endemic diseases of our locality, usually termed "malarial," differ essentially in their sources, in their symptoms, in respect to the remedial agents best adapted to their cure, from the malarial diseases of other regions? I believe that in most respects, and in by far the largest number of instances, they do. My reasons for this belief, briefly stated, are these:

1st. Miasmatic fevers usually prevail only in summer and autumn. A freezing temperature generally puts an end to them. *Our* malarial diseases occur at all seasons; indeed, we are never exempt from them. They are often most prevalent in cold weather, toward the end of winter or early in spring—the very seasons when ordinary marsh miasm must necessarily be most inactive.

2d. Diseases produced by marsh miasmata are usually strictly periodical in their occurrence, except in their more severe forms—and even then they often evince a tendency to periodicity—that is, miasmatic diseases (as generally seen) present intervals of comparative health, followed by a regular succession of chills, fever and sweating, with an indefinite recurrence of the same symptoms on succes-

sive or alternate days. Such recurrence is seldom seen in this locality; a complete subsidence of the fever usually terminates the attack.

3d. The disturbances induced by *our* malaria, in the milder classes of cases, speedily disappear without medication when the person affected is removed to a pure atmosphere. This change takes place much more slowly when sickness is induced by marsh miasmata.

4th. The ordinary causes which produce marsh miasm exist to only a very limited extent in this vicinity. Most of those moist, low places where miasm may once have been evolved are now covered by burning culm piles, or flooded by mine water, in either case effectually preventing the growth of cryptogamic or other vegetation, thus preventing the production of ordinary marsh miasm.

5th. The symptoms presented by our endemic diseases, while differing in the respects just stated from ordinary miasmatic disease, are such as usually result from the inhalation of the gases evolved by the combustion of coal.

6th. The particular periods when the manifestations of our endemic diseases are most marked, are during damp, still, foggy weather, when these gases accumulate in large quantity and concentrated form. The periods when we are most exempt from them are during and immediately succeeding brisk winds—by which these gases are speedily dissipated or carried away.

7th. There are still some marshy grounds within the boundaries of our valley, which have not yet been flooded with mine water, nor covered with culm, where marsh miasm is probably generated, and where that class of diseases, which is always produced by it, may yet prevail; but the area of such territory is so limited that its effects can scarcely be general.

I have no doubt that cases of miasmatic fever, or fever and ague, as well as its more intense forms, occur in this city. I believe I occasionally see such. I see many cases which I can trace to a different source—which have had their origin in carbonic and sulphurous gases—to the treatment of which quinine seems well adapted. But this is by no means conclusive proof, nor the slightest evidence, that the two diseases have a common origin or a common character. Both these malarial influences are, apparently, sometimes combined in their production.

In the more thickly populated portions of the valley,

but especially in the city of Wilkes-Barre, endemic diseases, while deriving their principal causes and acquiring their chief characteristics from the gases of coal, are yet greatly modified or intensified by the commingling of other poisons—both gaseous and liquid—with these. The vile odors that assail our olfactories in nearly every portion of the city, emanating from filthy streets, from stagnant gutters, and from festering pools, greatly intensify and often strangely complicate the symptoms of these diseases. A prolific brood of fatal maladies may be engendered by these causes alone. These filthy exhalations certainly contaminate our atmosphere in a manner and to a degree that is alike disgusting, dangerous, and disgraceful, and no doubt often make it exceedingly difficult to determine just what is the remote or the proximate cause of a particular case of disease.

In most cities, and I believe to some extent in our own, the gases that are generated in *sewers* sometimes become a means of vitiating the atmosphere and a consequent source of disease. The evolution of gases in sewers is probably an unavoidable incident with all systems of sewerage. These are exceedingly complex in their composition, owing to the great variety of decomposable substances which find their way into the sewers of a large town. The most noxious of these effluvia, however, and those which most extensively and most injuriously affect health, are sulphureted hydrogen and sulphide of ammonium. The latter, like the more damaging gases evolved by the combustion of coal, is produced in the absence of, or in the presence of, only a very small quantity of oxygen. The few sewers which we have—I mean those constructed for public use—being of large size, and admitting a large amount of atmospheric air, do not engender the most offensive nor the most dangerous gases that may be produced in sewers. Still, imperfect plumbing and carelessness and unskillfulness in building, often, I apprehend—certainly sometimes—lead to the complete permeation of dwellings by the gases from sewers, with more or less injurious effects upon those who respire them. A careful and thorough supervision should be exercised by our city authorities over the construction of all dwellings, and every precaution that prudence can devise should be enforced in guarding against the possible production of disease from such sources.

The very limited extent to which sewers of any kind have been constructed in Wilkes-Barre renders it improbable that the air of our city is appreciably affected by sewer gases, except in the immediate vicinity of the sewers. There is a good reason, however, for believing that some of the *small*, close, and unventilated private sewers about our city, have been, and are still, a frequent source of disease. I understand that a very severe malarial disease has recently occurred in the family of one of our members which was clearly traceable to this cause. How many other cases of disease and of death in our city, originating in a similar source, have been unjustly charged upon Divine Providence, we can only conjecture.

The same damaging effects upon health which are so extensively caused by the burning of culm, are often produced on a more limited scale, but with even greater intensity, by neglected or imperfect appliances for the warming of dwellings, or in the use of coal for other domestic purposes. Instances of suffocation and of death from these causes occasionally occur. Cases of pneumonia, of bronchitis, of neuralgia, of chills and fever, originating in this manner, and of greater or less gravity, are, I believe, far more numerous than is generally supposed; not only in this vicinity, but wherever anthracite coal is consumed as fuel. The frequent complaints of malarial diseases that are heard in many of the larger towns and cities of our country, where marsh miasm is certainly not prevalent, but where anthracite coal is extensively used, are probably to a great extent due to the same carbonic and sulphurous gases that so seriously impair the healthfulness of this region.

In many portions of Wyoming Valley the springs and wells which formerly supplied the inhabitants with an abundant supply of pure and wholesome water, have been rendered dry by the operations of mining, and the inhabitants have consequently been compelled to obtain their water supply from adjacent streams, or from reservoirs supplied by pumping water from the Susquehanna River. The city of Wilkes-Barre receives a partial supply of tolerably pure water, during the greater portion of the year, from one of the mountain streams. Plymouth obtains a much smaller and less adequate supply from a similar source. With these exceptions, the water which

the inhabitants of this valley use, is, as a rule, exceedingly impure and unwholesome.

Wherever mining operations are carried on, springs and wells in that vicinity are effectually drained, and the mineral tinctured water of the mines is poured into the adjacent water courses. These streams, often running through a densely populated neighborhood, generally become the receptacles of whatever is foul, disagreeable and unwholesome, and carry their impurities into the Susquehanna. To what extent these streams have furnished a direct water supply to our population I am unable to say; but the inhabitants of some of our larger towns have consumed these impurities in by no means homœopathic doses. The populous town of Pittston derives its water supply from the Susquehanna at a short distance below the point where the Lackawanna River pours into it a current of water so foul and poisonous that no living creature—not a fish, not even a reptile, can exist in it. Wilkes-Barre, during the hottest and driest portion of the year, is compelled to obtain a large proportion of the water it consumes from a similar source. Plymouth, in addition to the *richness* imparted to the water of the Susquehanna by Mill Creek, Toby's and other tributary streams of impurity, has the benefit of whatever filth is emptied into the former river by the sewers of Wilkes-Barre, and which is not retained along our city front for the purposes of perfuming our own atmosphere. Just what that substance is that by courtesy is called "water," in the vicinity of Nanticoke, I am not able to state; but, judging from the cadaverous looks of most of the inhabitants of that place, I should incline to the opinion that it is not very largely adulterated with *aqua pura*.

With two of the elements so essential to human existence as *air* and *water* thus rendered impure and unwholesome and made the media for conveying into our systems the agents and the germs of disease, it is by no means surprising that such an amount of "*indigenous malarial disease*" has for years prevailed about us as to have given to our valley the reputation of being an excellent place to migrate from; nor is it to be wondered at that its physicians should all have attained the reputation of being practitioners of *large experience*.

In regard to the medical treatment of diseases which are the consequences of the atmospheric conditions which

I have described, I am unable to lay down any general, much less any specific rules. In the milder class of cases, simple removal to a pure atmosphere is all that is required. To those who must remain and continue to inhale the poisons from which they are already suffering, tonics and stimulants usually afford at least an alleviation of the symptoms. Quinine, especially, seems to afford a ready method of alleviating discomfort for a time, but in the more severe cases of coal-gas poisoning, it seems altogether incapable of effecting a cure. The chills and fever, with their concomitant symptoms, run on, sometimes to a fatal termination, in spite of the usual anti-periodic remedies. In these severe forms of our endemic diseases, in view of the altered or deoxydized condition of the blood corpuscles known to be produced by carbonic oxide, I have been accustomed to administer chlorate of potassa in conjunction with muriated tincture of iron and quinine. This treatment, upon theoretical grounds at least, would seem to furnish the most practical method for counteracting the poisonous effects of the gas, by restoring the integrity of the blood corpuscle and sustaining the vigor of the nervous system. These are important indications to be fulfilled in all cases of pure, uncomplicated fever. But, as I have already stated, our endemic diseases are the results of such complex causes, and present such a variety of symptoms, that no specific rules can be adopted for their management. Each case must be investigated by itself, and treated according to the characteristics which it presents and the lesions which exist, by whatever methods most commend themselves to the intelligence, the judgment, and the experience of the physician to whose care it is consigned.

SELECTIONS.

Treatment of Hæmoptysis.

BY HORACE DOBELL, M. D.,

Consulting Physician to the Royal Hospital for Diseases of the Chest, Lond.

1. Profuse and dangerous cavernous hæmoptysis, from rupture of aneurisms formed on branches of the pulmonary artery, in the walls of cavities, and from ulcerative erosion of large vessels traversing cavities.

Our first and main object here should be, to block up

the cavity with clotted blood; our chances of saving life in the first emergency turn upon our succeeding in this. Rest and posture are our first remedies. We must take advantage of the well known fact that patients with open cavities can sleep best on the cavernous side, because the secretions from the cavity are thus prevented from continually draining into the bronchi and exciting cough. Therefore, in cavernous hæmorrhage, place the patient semi-recumbent on the same side as the cavity from which the bleeding proceeds. This position will favor the accumulation and stagnation of blood in the cavity, and its clotting should be at once promoted by the *topical use of styptics* in atomised fluids, or—in the absence of a spray producer—by the aspiration of impalpably powdered alum. It is to these cases that the *topical use of styptics* is specially suited.

Cold, ergot, and digitalis are next in value, from their rapid action; and to save every moment that is possible, hypodermic injection of ergotine is here eminently suitable. Faintness, short of syncope, should be encouraged, as it specially promotes our object; and, therefore, stimulants should be withheld till urgently required. All our other remedies may also be brought to help in turn.

These are the cases which have surrounded the idea of "breaking a blood vessel" with all the terrors of a sudden death. As it is unfortunately true that we may sometimes find it impossible to avert it. The vessel may be too large, and the rupture too extensive for any remedies to act before the patient is overwhelmed.

The same remarks, and the same treatment are applicable to—

2. The profuse hæmorrhage of aortic aneurisms; and in a less degree to those of cancer.

3. Capillary hæmorrhage of the first stage of pulmonary tuberculosis. Unless very profuse this need not cause alarm. The hæmorrhage may even be advantageous by temporary relieving the hyperæmia, and this end should be assisted by rest—general bodily rest, and local functional rest—as already described, and by the eliminative action of sulphate of magnesia. It is only when the hæmorrhage is profuse that other remedies should be used, and then ergot or lead are specially suited, and iron specially to be avoided. The constitutional condition of oxidation, and lack of fat in the blood, is the point to

which our attention must be turned directly the emergency has been met: for this is the *primum mobile* in the case, the predisposing as well as the exciting cause.

4. The hæmorrhages occurring in the course of advancing pulmonary disintegration as distinct from "*cavernous hæmorrhage*," are best met by the combination of styptics, saline aperients, ergot, and digitalis, and by topical styptic inhalations of atomised fluids. It is in these cases, also, that lung-tissue is most in danger of being hopelessly broken down by the hæmorrhage; and in which, therefore, the after watching of the temperature, counter irritation and antiseptic inhalations are most likely to be called for. If the hæmorrhage is obstinate, and vascular excitement absent, turpentine is here a specially well suited remedy, for the patient is generally feeble and cachetic, and the turpentine answers several purposes at once.

5. In hæmorrhagic infarction, bleeding should not be stopped unless severe, and in that case atomised styptics are the best suited. The most important point is, to find the seat of the thrombosis from which the embolus sprang, and to protect the patient against a recurrence of the accident. The next point is to lie in wait for pulmonary gangrene, and if this is indicated by the character of the expectorated blood, to use turpentine externally and internally, and carbolic acid in vapor or spray. Professor Gerhardt says, "You will treat violent hæmorrhages (in hæmorrhagic infarction) with inhalation of perchloride of iron, and the use of tonics will be in various ways indicated. Under certain circumstances, you will seek to hinder the gangrenous softening of the infarction by antiseptic inhalations. But on the whole, this proposition is applicable; the infarction which is not infected either by the embolus or by the inspired air, cures itself. The danger lies in the embolism. If the infarction forms, the danger is already past.

6. Purpuric hæmorrhage is best treated with turpentine and iron.

7. The hæmoptysis of retrograde congestion specially requires digitalis, sulphate of magnesia purging, rest, and appropriate position.

8. Vicarious hæmoptysis, due to the excessive vascular tension associated with the menstrual period, is best treated by cholagogues and aperients, and by the usual means of restoring normal menstruation. Its recurrence

should always be anticipated and prevented by timely remedies. If normal menstruation is obstinately absent in spite of the usual means for its restoration, and the pulmonary hæmorrhage insists on periodically recurring, a leech or two applied to the sacrum, or near the anus, or, as Trousseau recommends, on the knees, when the monthly period threatens, is an efficient means of treatment.

According to my experience, this form of hæmoptysis is very common, and of itself does no serious harm. It need not, therefore, cause any alarm, were it not for one circumstance, and unfortunately that is a very serious one—viz., that the reason why the lungs become the seat of the vicarious hæmorrhage instead of some other vascular organ, may be that they are rendered vulnerable by pre-existing or impending disease. It is with this view that the case must be carefully investigated, and both at the time and afterwards, vigilantly watched; and it is especially under the guidance of this view that we must select our remedies.

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SERVICE OF DR. WILLIAM PEPPER.

Clinical Remarks on Epilepsy.

TO-DAY I desire to offer a few remarks on the treatment of epilepsy. At first I will ask your attention to a few different types.

Here, for instance, is the case of a young man, aged eighteen; his head has been noticed to be large since his fourth month. He has never been well—always more or less delicate or sickly. It is a case of chronic hydrocephalus, not rickets, but the enlargement is due to a serous effusion into the ventricles of the brain, or it may be on the surface of the brain. The square protrusion of rickets is lacking, but we have the high, spherical development and depression of the orbital plates. We also notice the contrast between the large brain-case and the comparatively small features. We find no traces of rickets at the end of the long bones, nor at the ribs.

It is a state of chronic hydrocephalus which has been arrested and resulted in a prolongation of life. He is now

eighteen years old. Sometimes such patients live to adult life, and even to middle age, the individual being possessed of moderate mental powers. The father and mother are both healthy, but the mother had chorea at the time of his birth. Of their eight children all are healthy but William, our patient.

He has been having fits since his eighth year. His first attack lasted several hours. During the last month his fits have become more frequent; whereas, formerly, he had about three fits a month, he now has had nine within twenty days. The attacks come on suddenly, without warning. He immediately loses consciousness. Sometimes the disordered muscular movements are so brief that they scarcely attract attention, and at other times they are very violent and prolonged, and he is tossed about and almost torn to pieces by the violence of the attack.

The fits are connected with organic disease of the brain, and consequently we speak of them as symptomatic. There is a positive lesion in this case: viz., the distention of the ventricles, which gives rise to constant irritation by pressure on the motor ganglia at the base of the brain. It is probable that in the first convulsion a rupture took place of some of the motor fibers of the left side, which caused a right-sided hemiplegia from which even yet he has not recovered. It is quite possible that, owing to the pressure, the meninges have become somewhat roughened, and this may play some part in the production of the fits. Here we have an organic disease of the brain exciting the fits as a symptom. Diseased conditions need not be at the base of the brain, nor yet in the spinal cord, for us to have symptomatic epilepsy.

The next case is a gentleman twenty years of age, who presents a most interesting condition, and demands our utmost consideration. He is healthy, strong, has had no constitutional disease, but had remarkably bad luck in regard to falls and blows on the head. Ten years ago he got a blow with a club on the right side of the head, which knocked him unconscious. Later than this, about eight years ago, he was thrown out of a wagon and struck on his head. Four years ago he had a somewhat bad attack of typhoid fever. About eight years ago he fell on the ice and was insensible for two hours. All of the family are healthy.

The first fit occurred seven years ago, when he was thirteen years old, some months after he had fallen on the ice. From that time he had no fit until June, 1880, when he was unconscious for one hour and a half. The third fit occurred on the third of the following October; the fourth on the first of March, 1881; while the fifth and sixth have occurred respectively on the second and the twelfth of April. Lately he has noticed that after exertion he has slight attacks. On a few occasions only he has had a distinct aura, which began at the base of the chest.

Examining his skull we found no depression of bone nor signs of fracture, nor can even a scar be found. It is therefore very difficult to determine the precise nature of the cause. We have distinct epileptic attacks combined with the *petit mal*.

It is often very difficult to determine in such cases whether the attack be an essential epilepsy or symptomatic of some local lesion about the head. We are all liable to epileptic attacks. Reflex excitability resides in all. The more healthy the nerve-tone, the less liable are we to have morbid muscular movements. As the nerve-tone is impaired a morbid excitability of the nerve-centers presents itself, and then also do we meet with the irregular muscular movements.

Irritation from undigested food in the intestinal tract, the presence of worms in the intestines, a tooth pressing on a tender gum, or a splinter in the matrix of a nail, all may cause violent convulsive movements—a reflex fit. If, in addition to this source of irritation, we have weak nerve-centers, then the fits are more likely to occur, and yet more likely if the irritation is nearer to the nerve-center. When the centers become abnormally excitable, we have a state predisposing to convulsions. This predisposition may be so marked that the slightest irritation may cause the fit. This last condition described is sometimes a congenital affair, affecting certain parts of the nervous system more than others. It is a morbid state of the nervous center, which may be acquired after typhoid fever, may come from malnutrition, from anæmia, from overwork, from depressing passions; all may breed the morbid condition that is at the root of epileptic convulsions.

A blow on the head may produce these convulsions, a

Spicule of bone may cause the irritation, while concussion may so impair the molecular structure of the brain that the organ becomes permanently injured. With such conditions there is developed an increased susceptibility to nervous irritation. Here in this case it is exceedingly important to determine which of these two causes exist, as on them depends our treatment.

In examining epileptic patients it is very necessary to find out distinctly and definitely when the first attack occurred. In proportion as the attacks occur earlier in life, the more probable is it that they have a congenital origin.

This lad is fifteen years of age; as a boy he was unusually bright, active, and energetic; he went into everything with his whole soul. In the summer (May) of 1879, while he was playing in the midday sun, he had his first fit. Since then he has had a number of these attacks. He has been under the regular epileptic treatment, and has improved only temporarily.

Latterly the epileptic attacks have been mixed up with morbid excitability of the nervous system, as manifested by restlessness, talking at night, and other phenomena of irritation. With this there was evidently serious impairment of nutrition. This patient probably overtaxed his nervous system, and his nutrition was impaired to a great extent, when some sudden excitement brought on the attack.

Unfortunately, there is a possibility of his having had an attack of true sunstroke, and I have often seen convulsions following sunstroke when a meningitis has been caused, the subacute meningitis occasioning fits in after-life. Probably, however, as the boy worked hard and grew thin, the convulsions are functional—are due to a state of malnutrition.

We have now seen instances from the worst to the best, cases of convulsions occurring under widely different conditions—all included under the name of epilepsy.

Let us look for a few minutes at the treatment from a general point of view.

In the first place, when you see a case, look for the cause, and see whether it is remediable. Sometimes we find a depression of the skull; such cases should be trephined at once, and the condition of the bone examined. Whenever you can locate the seat of injury, use the trephine; the operation is rarely followed by any trouble.

The study of localization by means of the fact that injuries at certain points give rise to more convulsive movements than is observed in others, may prove a valuable guide. Generally you must have a depression or scar before you trephine. Sometimes, when the bone has not been injured, the trephine has proved to be of great benefit. In our second case, although I think that the symptoms are due to pressure, I am unable to locate its seat.

In the third case, his condition is certainly predisposed to it: insufficient body-weight, in proportion to his height and age; he has positive anæmia, and a want of actual muscular strength combined with a constant irritability—a muscular restlessness; his feet and hands are cold, his pulse weak, the tongue coated, bowels irregular; the food is not properly assimilated; the urine gives evidence of this, by being constantly charged with the phosphates.

Perhaps some of you may remember that I showed you last spring a case of epilepsy, with gastric aura, in an anæmic, thin, weak young man. He had received a heavy blow on the back, and he had begun losing ground; his health was impaired, and he became epileptic. His family were all remarkably weak. His brother had just recovered from incipient phthisis; his sister had chorea; his father was in bad condition. Placing him in bed, on a rigid milk diet, beginning with small quantities of milk, gradually increasing it until he took three quarts per day, he appeared to be absolutely cured. He gained thirty pounds during that period, and is now a well, vigorous, and hearty man. Since February 13th he has had no epileptic seizures. The only thing medicinal he took was minute doses of nitrate of silver, which were given him for its action on the gastric mucous membrane, as he was suffering from gastric catarrh.

Sometimes it is necessary to change the individual's whole mode of life. Total change of climate will sometimes cure our patient, when combined with suitable diet, etc.; but rest in bed is one of the most useful means, together with a most radical and rigid diet, until we get the system purified, and then we may increase the diet. Such a treatment works a change in the molecular and chemical conditions of the body, and so we get some of the most complete recoveries, not only from this disease, but also from a very large number of chronic diseases.—*Medical Record.*

The Advantages of Calomel in the Diseases of Childhood.

BY E. MARLETT BODDY, F. R. C. S., F. S. S.

CALOMEL, by reason of its purgative properties, frequently causes green evacuations, and so does castor oil when the child is out of health; but this phenomenon of disease ceases the moment the child becomes well. Therefore, the green stools are not by any means produced by the calomel, but are caused by some morbid action going on in the intestines. When the child is ill the mother will almost invariably tell you that the evacuations are green and slimy. This assertion of the parent alone proves that calomel, when given, is not the originator of green stools, but that they are produced by some morbid influence. I think the color is very probably caused by an over-secretion of bile, which will to a certainty show itself independently of the calomel.

As there is no fear of mercurialization arising from calomel, as it promotes the elimination of the over-secretion of bile, and as it restores the intestinal canal to its ordinary healthy tone, it is, without doubt, the best purgative we can possibly administer in *all* diseases appertaining to infancy, ignoring to a certain extent those of a congenital nature. Mercurialization can only occur when the drug is allowed to remain and accumulate in the system; and to accomplish this the best method is to follow the general rule, viz.; the administration of the hydrargyrum cum creta; by so doing we shall be decidedly successful. But as this result is not desired, we shall be able to prevent such an untoward complication by administering calomel by itself, or combined with a small amount of sugar. This addition is not at all necessary; in fact, I do not understand what advantage can be gained by combining the two. Calomel, I think, is quite as efficacious without sugar; therefore it can be well dispensed with.

Regarding a very recent sage discovery made by a certain *savant*, that by giving to an infant calomel and sugar we may very likely poison it through the formation of corrosive sublimate while the compound remains in the stomach, though chemically true, yet I must say it almost verges on puerility. No case of poisoning has, I believe, occurred through the combination of calomel and sugar, and I dare say never will. I think we may consider it as

bordering on the absurd until a *bona fide* case of poisoning resulting from the administration of calomel and sugar is brought before the profession, and thoroughly substantiated as such. The discovery is ingenious, to say the least of it; but it is of no practical utility when one considers it in the abstract. However, it is not for this chemical change in the stomach that I am advocating the non-administration of calomel and sugar, but because I do not see what can be possibly gained from the combination of the two. In such matters we can only judge correctly by the relative value of the results obtained; and if calomel produces that which is to be desired by its own inherent qualities (which are not in the least enhanced or diminished by the sugar), then in *all* cases, I say, of infantile disease we may with safety and advantage administer it by itself. In dropsy, one of the sequelæ of scarlet fever, some compound jalap powder may be combined with it with advantage, though I have found that calomel alone is equally as efficacious, even supposing that there is albuminous urine. Calomel may also be combined with santonin in cases of worms; but of this anon.

We have now ascertained conclusively, I think, that it is highly injudicious to give infants hydrargyrum cum creta, owing to one ingredient, stultifying, we may say, the action of the other, and that it may be left to discretion whether any gain may result from combining calomel with sugar; it now remains for us to determine how we may promote its action to a greater degree, and thereby accelerate a speedier return to health.

To obtain this end satisfactorily I always make it an invariable rule to administer the calomel at night, and the next morning to follow it up with some castor oil, which practice has always resulted by my expectations being realized. Sometimes, on account of the stubbornness of the bowels, owing to neglect, calomel is comparatively powerless as regards its purgative qualities; but it never fails when followed by the castor oil, which seems to stimulate it to fresh exertions, and entirely prevents, in children as well as in adults, the much-dreaded mercurialization.

This mode of treatment is, as the reader may perceive, remarkably simple, and consequently by some may be impugned as being too much so; but simplicity, to my mind, is or should be the goal of all things. Complexity

and abstruseness show undeniable and unmistakable ingenuity and tact, and great praise is due to those who can obtain the desired end through the media of such channels; but the great fundamental in the treatment of disease is simplicity, which, if carried out successfully, is the acme of medical science, and the perfection of medical skill.

Some seem to have a grudge and a determined ill will toward calomel; no words and terms are too strong for them to use when they denounce it; in fact, they abuse it with a hearty good-will; and many, I know, would prefer giving no medicine at all than be under the necessity of administering it. Some are truly fearful, and altogether refrain from using it, because so and so may happen; but what catastrophe one can not without great difficulty elicit from them; and, supposing we are successful in our endeavors, we find their objections and reasons very vague and unsatisfactory. Some will honestly tell you that to a certainty mercurialization will occur, and that is the sole reason why they do not use it.

Assuming, for the sake of argument, the correctness of their objections, I do not see why such a result should necessarily occur if it be given with care. If a man chooses to cut his throat with a razor, there is no reason why I should follow his example, for I may use the very same implement for other purposes. If a man chooses to poison himself with opium, the same drug given by me may save another man's life. So it is with calomel; if a man administers it carelessly and injudiciously, evil consequences may result; but I may give the very same drug, and good results will ensue.

This dislike to calomel is sheer prejudice, and in many instances approaches the whimsical. I remember being told by a great enemy to calomel, that it should never be given save to a plowman, and then only very gingerly. "Colocynth and hyoscyamus," said he, "for a lady, colocynth and jalap for a gentleman, but colocynth and calomel for a plowman." This absurd injunction, I need hardly say, I very soon found to be the quintessence of erroneous treatment; besides, it was entirely antagonistic to all common sense; for the intestines of a "plowman" have not as yet been discovered to be dissimilar to the intestines of a "lady" or "gentleman." Perhaps when he made the above remark he was under the impression that there did exist

a dissimilarity, and, being of that opinion, considered that a different course of treatment was necessary to meet the various peculiarities of the several intestines.

This digression serves to show what a groundless, illogical abhorrence some have to calomel, for no reason at all except that something prejudicial to the patient may possibly occur, but of what nature they are entirely undetermined upon, unless it be mercurialization, which is the only objection its opponents can reasonably urge against its administration.

In what diseases or morbid conditions of infancy is calomel indicated, and how should it be administered, whether alone or in combination? Infantile diseases are few in number when compared with those which attack the adult, for the following very cogent reasons: The constitution of the infant or child has not gone through the wear and tear of life; the lungs have not yet been irritated through inhalation of infinitesimal carboniferous matter; the digestive powers have not yet been impaired through the ingestion of indigestible food; nor have the coats of the stomach been injured by the destructive properties of alcohol, which is regarded by a great majority as a necessary staple of nourishment, and neither is the liver disorganized by habitual drinking.

The most prevalent of all infantile diseases are convulsions, proceeding from either intestinal or cerebral irritation, or from dentition. Those arising from intestinal irritation are sometimes induced primarily from dentition, and in many instances one state is co-existent with the other; and the same may be said regarding those convulsive attacks which owe their origin to cerebral irritation, though the latter condition may exist singly and alone; in other words, we may find one state complicated with the other.

There are two kinds of intestinal irritation—that proceeding from fecal contents, and that resulting from the presence of worms (which generally belong to the round variety, though sometimes the thread-worms are also provocative of convulsions, but they are not of so severe a nature, and they are more common among children averaging from two years and upward, but rarely found among infants at the breast). Those convulsions proceeding from irritation, produced by the accumulation of fecal matter, are easily cured if treated correctly, but are simply aggra-

vated if treated in the usual style, *i. e.*, two or three grains of hydrargyrum cum creta administered three or four times during the day.

All that these infants require is a calomel powder at bedtime, followed the next morning by some castor oil, which must be continued till the alvine excreta resume their normal appearance, which is too well known—at least I hope so—to my readers to need specifying. However, as it is the generally-received opinion of the profession that calomel produces green stools, irrespective of the condition of the patient, I do not think I shall be erring on the wrong side when I tell them that when an infant is in health the ejecta are as yellow as mustard, whether it is administered or otherwise.

When the convulsive attacks proceed from the presence of worms, santonin should be combined with the calomel, and should always be given at night-time, to be followed the next morning by some castor oil. This course should be perseveringly persisted in till the motions are natural, which will very soon occur after the expulsion of the parasites. There is not the slightest fear of mercurialization, nor will the santonin cause retention of urine, and neither will the convulsive attacks be increased, for the very reason that the santonin has not sufficient time to resolve itself into xanthopsin, on account of its being eliminated by the castor oil.

If the convulsions proceed from the irritation produced by the oxyuris vermicularis, or the ascaris vermicularis, commonly known as the thread worm, the best treatment to pursue after the motions have become normal (which will by no means take place till the worms have been expelled) is to inject some infusion of quassia or salt and water into the rectum. This is comparatively useless if the administration of calomel and its adjunct (if I may so term castor oil) is omitted; for though those minute parasites are supposed to infect the rectum only, they would, no doubt, be found, though perhaps fewer in number, in the sigmoid flexure and descending colon, if they were searched for on a favorable opportunity, which could only be in a *post mortem*.

Depending simply upon an injection in those cases is really not of much benefit; if I may be allowed to make a comparison, it is like clearing out the lower part of a drain-pipe and leaving the upper portion foul and impure.

I have already mentioned the treatment which should be followed out during teething, and I think I have clearly demonstrated the disadvantages accruing from the administration of the hydrargyrum cum creta, and the advantages resulting from calomel, and the remarks I have made regarding them will also apply to nearly all the diseases which are prevalent in infancy.

I shall now pass on to consider those other complaints in which the administration of calomel is advisable. The most common after convulsion is diarrhea—a medical bugbear which, when once it commences, frightens the mother, and causes the medical man to resort immediately to a very silly mode of practice, but which at the present day is regarded as a very scientific procedure; and the antidote (presumed to be such) is to be found in the British Pharmacopeia, and accordingly it is given with great faith when diarrhea shows its hideous presence, in the vain hope of stopping it.

What is diarrhea? and what causes it? and why should we be in such consternation when it occurs? We will examine and answer these questions from a practical common-sense point of view.

First. What is diarrhea? The answer is simple and not at all difficult of comprehension. It is the endeavor of nature to get rid of an evil, and the evil is nothing more nor less than a collection of fecal matter in the intestinal canal. In the majority of cases what else can it be? If the coats, especially the muscular, of the intestines are weakened to any extent in an infant, there are very few chances of its ultimate recovery, because the weakness depends upon some organic mischief, which is not to be remedied by human means. Now if the diarrhea originates from such a condition, all the chalk mixture in the world will not stop it; and, most probably, if the administration is too often repeated the child rather succumbs to the pernicious effects of the astringent than to the diarrhea. Here in these cases, by-the-by, we administer chalk to stop the action of the bowels, and in other cases we combine chalk with mercury to open them—contradictory, there is no denying; but then it is accounted correct treatment.

Second. What causes diarrhea? The contents of the intestinal canal and the efforts they make to get out—nothing else. They have done their duty; all nutriment has

been extracted from them; they are therefore useless, and nothing else than an incumbrance, and consequently the sooner they are ejected the better. Nature is of the same opinion, and accordingly sets to work, and would perform her duty alone and single-handed were the fecal contents in their usual amount and normal condition; but it is not so; the infant, no doubt, has been previously stuffed or rather overfed by a too anxious parent. The intestinal canal is too full, and as a natural consequence diarrhea results, which is the strenuous effort of nature to rid herself of an irritating load, which we scientifically endeavor to prevent by the prompt administration of an astringent in the shape of chalk-mixture. In these cases nature requires the helping hand to lift her over the difficulty, not to be thwarted or antagonized by the administration of drugs of an astringent tendency. Such treatment is not only outrageous, but discreditable to medical science; and I regard it as such, however strongly and indeed cleverly it may be advocated by those who are thought more competent to decide than others; for the arguments they advance with such plausibility are entirely based upon theoretical knowledge (or practical ignorance) rather than upon sound principles of practice and careful investigation into the varied phenomena of health and disease.

I am afraid that we regard the human organism as a piece of workmanship much more complex in its design and working than it really is; and again, that we too frequently run our heads against the idea that we can mould it just as we please, forgetting that nature is, on the average, able to conduct her own proceedings to a favorable termination without the aid of science, but is hindered and perhaps completely impeded by our somewhat too great a hastiness to adopt the so-called scientific treatment of the present day, and which, in infantile diarrhea, is more hurtful than otherwise.

One question now remains for our consideration. Why should we look upon the presence of diarrhea with the eye of suspicion and apprehension? and why should we regard the efforts of nature to relieve herself as indicative of danger? I think we can easily account for our groundless fears from the fact that we clothe simple diarrhea in so many technicalities that many, who are either too indifferent or too ready to take for granted the opinions of others, neglect investigating and probing to the bottom

the origin of a condition which is quite the reverse of what we imagine to be prejudicial to health.—*Medical Press and Circular*.

Incontinence of Urine in Boys.

BY JOHN MORRIS, M. D., OF BALTIMORE, MARYLAND.

Read Before the Baltimore Medical Association, April 25, 1881.

INCONTINENCE of urine in old people is frequently an evidence of some severe nervous lesion, but it is not so in the young. In the latter it is a curable disease, and exists almost independently of brain or spinal trouble. It may result from a number of causes, the most frequent of which are intestinal irritation, acidity of urine, worms, defective nutrition, feebleness of constitution, and, possibly, teething. A very frequent cause, too, is a nervous temperament, or diathesis, independent of any organic disease; but the most frequent cause of all, in my judgment, is a condition of the bladder, or rather of the sphincter, brought on in early youth through the slovenliness and inattention of mothers and nurses. They feed the child with improper food, and suffer the bladder to become distended before putting it to bed. No attention is paid, even during the day, to see that the urine is voided at proper intervals. The consequences of this inattention are daily recognized by medical men on entering dwellings and rooms occupied by these poor, forlorn children. To make it plainer, it is enough to say that the odor of these apartments is not that of "Araby the blest."

In the treatment of the disease it is necessary for us to ascertain its origin. The history of the child, and its habits from birth, as well as the family history, should be inquired into. The urine should be tested for acidity, and the bladder and rectum, if needs be, examined. Atony of the bladder might, by causing over-distention, give rise to it, or undue irritability might prove sufficient to overcome the resistance of the sphincter. If incontinence be due solely to acidity of the urine, it is easily cured. The administration of a simple alkali in combination with benzoic acid is all that is necessary. A solution of benzoate of soda, combined with a very small quantity of belladonna, will be found very useful in this condition. This

form of the disease is owing to perverted secondary assimilation. If the disorder is caused by worms, some anthelmintic remedies will be required; but worms in this affection, as in many others, are simply a *bugbear*. Intestinal irritation, no matter from what cause, must be met by proper agents; defective nutrition, by the use of cod liver oil, iron, and a judicious general regimen, embracing the cold bath, fresh air, calisthenics, etc.

The form of the disease most amenable to treatment, and which, as I said before, is very common, is the purely nervous form. It is most frequently met with in boys and girls of a lymphatic or scrofulous temperament. They lose the co-ordinating power, at first, from the will not being called on and properly exerted, and this is afterward kept up by habit. In these cases the syrup of the iodide of iron and the cold sitz bath act as a specific, particularly if aided by moral means. Large doses of the iodide of iron must be given to the big and strong boys in public reformatories. The reason that syrup of the iodide of iron is preferable, in cases of children, to other preparations of iron is, it is easily decomposed in the stomach. The iodine is set free, as Jacobi states, and acts as an anti-fermentative in the many cases of disturbed gastric digestion occurring, even in normal children whose circulation has been disturbed, or whose gastric secretions are certainly below their normal amount, in consequence of a deficient supply of blood. If nocturnal enuresis exists with daily incontinence, belladonna may be given with the iron at bedtime. I can speak with great confidence of these last two remedies. I have given them a fair trial, and in every instance, save one, have they proved beneficial; indeed, in my judgment, they are the only drugs which have any real value in this disease. Strychnia has no specific powers, and I much doubt if a single cure has been effected by it. In cases of atony, or paralysis of the bladder, I believe it might, in combination with syrup iodidi ferri, prove highly efficacious. In abnormal irritation of the bladder, belladonna is our best remedy, and far preferable to conium or henbane; the bromide of potassium has been recommended, but I think it almost useless. Tincture of cantharides has no virtue whatever, at least I have obtained no good results from its administration.

In the purely nervous form of the disease that I have

heretofore described, the condition of the urine is very singular. It is voided in large quantities; it is limpid, almost colorless, and lacks the normal ingredients. Hysterical patients, as you all know, pass enormous quantities of limpid urine, and from precisely the same cause. The diet of the little patients suffering from this particular kind of enuresis is an important matter. From their family history, peculiar temperament and other causes, they are apt to be over-indulged, and the loathsome penalty they pay is oftentimes but a retribution of the gods.

In mechanical means I have no confidence whatever; I have tried Sir Dominick Corrigan's remedy, the application of collodion over the meatus, but obtained no good results. As I left it to the patients themselves to make the application, it may be possible that it was ineffectively done, or perhaps the collodion itself was defective in quality. I think it possible Sir Dominick's suggestion may prove useful in other hands and under better conditions, and I shall certainly recommend its trial in the public institutions I have referred to. It is, at least, the only one of the mechanical remedies that possesses the slightest trace of merit. Of course, if incontinence of urine can possibly be superinduced by congenital phimosis, an operation is necessary. I invariably examine the prepuces of my patients, with a view to the discovery of any local trouble. Trousseau's truss, the passage of a catheter, the injection of warm water, as proposed by Dr. Braxton Hicks, Pluvier's pads, applying a nail to the back, a circular band around the pelvis, etc., are not only useless, but injurious.

Hot Water Injections for Post-Partum Hemorrhage.

THIS use of hot water, as recommended by Emmet, appears to be more and more appreciated across the Atlantic. Dr. Atthill, Dublin *Journal of Medical Science*, says that this treatment has proved eminently satisfactory. It has, indeed, much to recommend it, for not only is it a powerful hemostatic and excitant of uterine contraction, but it is also a general stimulant. If used with ordinary care, it is not only harmless, but beneficial, by thoroughly cleansing the uterus from clots, portions of membrane, etc., which may have been left in its cavity. It will not,

in Dr. Atthill's opinion, be found altogether to displace the use either of cold water or of the perchloride of iron, but rather to be applicable to a distinct class of cases, in which the former of those remedies would be unsuitable, and the latter unnecessary. The method of carrying out the practice is exceedingly simple. An ordinary syphon syringe is the only instrument required, though we now use one with a long vulcanite nozzle, specially constructed for vaginal and intra-uterine injection. This is carried up to the fundus, and, with the usual precautions against injecting air, and securing a free return, we inject water as hot as can be conveniently borne by the hand, *i. e.*, about 112° F., in a full stream into the cavity, continuing this until a good contraction is secured, and the water returns quite clear and colorless. Dr. Atthill gives the following as some of the results of his experience in the use of hot water:

1. In cases of sudden and violent hemorrhage in a strong and plethoric woman, it is better first to use cold.

2. Where, from the prolonged and injudicious use of cold, the patient is found shivering and depressed, the beneficial effect of injecting hot water is rapid and remarkable.

3. In nervous, depressed and anæmic women, hot water may at once be injected without previously injecting cold.

4. In cases of abortion, where, from uterine inertia, the ovum, although separated from the uterine wall, is wholly or in part retained, the injection of hot water is generally followed by the most satisfactory results.

5. Where the injection of the perchloride of iron is considered necessary, previous injection of hot water clears the uterus of clots, etc., permitting the fluid to come directly in contact with the bleeding surface, and lessening the danger of septic absorption.—*Chicago Medical Review.*

The Treatment of Consumption.

In a paper on the treatment of pulmonary consumption, Prof. Peter, of Paris, insists strongly on the value of hydrotherapy. He begins with frictions with dry flannel, then passes to rubbing with cloths dipped in aromatic alcohol, cologne water, or vinegar, followed by dry friction for five or six minutes, and finally advances to the

use of the cold sponge. The process is repeated twice daily, immediately after rising and before retiring. He believes sponging to be better than the douche, because it is more easily carried out. The chief points to be observed are, to accustom the patient gradually to the use of cold water, and not to prolong the bath too much at first. Prof. Peter divides the sweats of phthisis into three classes, according to their cause, viz.: ordinary night sweats, which depend not so much on the pulmonary trouble as on the general condition and the tubercular fever, the sweating which follows high evening exacerbations of the fever, and colliquative sweats. To control the first, he recommends especially sponging with vinegar, combined with the usual internal remedies, such as acetate of lead, tannin, etc. Atropine, he considers unreliable. Quinine is useful for the second form, because it controls the fever. For the colliquative sweats there is no remedy. For the cough he gives opium and belladonna in small doses; he orders pills containing one-sixth of a grain of opium, and one-twelfth of a grain of ext. belladonna, and gives at first, one at a dose, increasing afterward if necessary. When the cough causes vomiting, he gives one or two drops of tincture of opium before meals, with good effects. When the vomiting seems to be due more to dyspepsia than to the cough, he gives a few drops of hydrochloric acid after the meals. In such cases, alcohol in some form is also useful, but it must be given freely. For the diarrhœa, when it is due to simple intestinal catarrh, as is usually the case at the outset of the disease, he employs subnitrate of bismuth, in connection with a carefully regulated diet. When it is due to the use of cod-liver oil, or to the milk or grape cure, the exciting cause must be discontinued, and the stomach, if overloaded, be emptied by an emetic. When it is due to inflammation of the stomach and intestines, he prescribes opium, nitrate of silver, perchloride of iron, etc., and employs also derivatives to the skin. For colliquative diarrhœa there is no remedy. For controlling the expectorations, he has found the balsams, glycerine, and kermes, to be the best remedies. For hæmoptysis, he recommends, in the first place, the use of emetics, and explains their action on the theory that they excite a reflex action through the sympathetic, which causes anæmia of the lungs, and controls the hemorrhage. When patients have been

greatly reduced by the hæmoptysis, he has found quinine and ergotine useful.—*Allg. med. Cent. Zeit.*, February 25, 1880.—*Med. Record.*

An Opinion on Blood-Letting.

It requires no little courage to confront the popular prejudice as Dr. Hiram Corson does in the following passage, taken from a paper on pneumonia communicated to the Philadelphia *Medical Reporter*:

“I have been in active practice continuously for fifty-two years, and during all that time have not once had occasion to believe that there was any change in the human system or in the climate, which made it more hazardous to treat acute inflammatory affections by means of cups or leeches and other anti-febrile remedies, than it was in the beginning of my career. I am therefore free to declare that it is just as safe to use them now, and they are quite as efficient, as they were in the days when the physicians of Philadelphia were using them so freely, with so much confidence and with so great success. Surgeons now perform fearful operations, by which not only is a great amount of blood lost, but the patient is also injuriously affected by the shock to the nervous system, yet the recoveries are oftentimes astonishingly rapid. Women in time of childbirth often flood until they are in the very presence of death, and yet, when it is arrested, they will in a few days be found as bright and cheerful as if nothing had happened, soon regain their usual strength and have no disability from their loss of blood. They bear it as well now as they did fifty years ago. Even those who would not bleed a woman in labor to save her from convulsions have no fear that she will suffer from a flooding which happened after the delivery of the placenta. A man may cut his leg and bleed till he faints, but no one feels that the mere loss of blood will do him any permanent injury; and yet what a hue-and-cry from these same people if a physician should bleed a person to remove a congestion of the brain, or relieve a pain in the head or a pleurisy. I have rarely met with a graduate of the last fifteen years who has ever used a lancet, and yet these are the very persons who are so opposed to its use. They regard the older physicians who do use it as persons who

are ignorant of the "valuable new remedies" (which they believe were discovered about the time they began to study medicine), when the truth is they are themselves ignorant of nearly all the means of cure save *veratrum viride*, *aconite*, *digitalis*, a few cathartics, morphine, chloral and—I was near forgetting them—poultices; poultices for croup; poultices for diphtheria and scarlet fever; poultices for the liver, and poultices for the kidneys; poultices for the chest, and poultices for the belly; and when you ask them what effect they expect from these means, they have no answer but this: 'They are very much used in the hospitals now.' Is there any reason why physicians who practiced forty years ago should not know as much of all the above remedies as these men educated during the crusade against blood-letting? *Digitalis* was much used long since; forty years ago I used tincture *aconite*, with good effect in many cases, as did others who then practised; and as for newer remedies, does any one suppose that such men as Dr. John Atlee, Dr. Trail Green, Professor Gross and hosts of others—practitioners and close students—are ignorant of the reputed merits of these champion medicines?"

Treatment of Asthma by Electricity.

DR. MAX SCHAEFFER considers that the best remedy for cutting short an asthmatic attack is the local application of the induced current, which often causes the attack to disappear as if by magic, and is much more efficient than the pneumatic apparatus. According as the seat of the disease appears to be in the higher or lower parts of the nerve, the author applies the electrodes to both sides of the neck, under the lower jaw, about three quarters of an inch in front of its angle, or opposite the thyroid cartilage in front of the sterno-mastoid. The currents must not be too feeble. The patient must clearly perceive that the current goes straight through the soft palate or through the larynx. When the attacks are violent the current should be applied for a quarter or half an hour at least twice daily. As recovery takes place the applications may be shortened until they are at length made only once or twice a week. He rarely applied di-

rect faradization, and found no good from the constant current.

Dr. Richard Schmitz reports the case of a patient, aged forty, who had been the subject of numerous and repeated attacks of asthma for eight years. At the time the electrical treatment was commenced the patient was suffering from a most severe attack, which had resisted all the ordinary methods, and had compelled him to sit for three days and nights without rest. Each attack was preceded by a catarrh, which successively invaded the larynx, trachea, and bronchi, and it was thought that the swelling of the mucous membrane of the respiratory tract might have involved the vagus in its course, and it was therefore considered necessary to direct the induced currents to this nerve. The first *seance* was at eight in the evening; the electrodes were applied over the alæ of the thyroid cartilage and internally to the sterno-mastoid. The current, at first weak, was gradually strengthened. The sitting lasted nine minutes, and the patient was so much relieved by it that he was able to sleep during the greater part of the night. On the next and succeeding days two more sittings a day were given, each of five minutes' duration. The good effects continued, and after twelve applications the patient was freed from the attacks of oppression and from the rales which embarrassed his breathing. Since the return of the patient to Hamburg he has had a fresh attack of asthma, which was cured without recourse to electricity; but in spite of this it appears that induced currents are useful, if not in alleviating the affection itself, at any rate in its most painful manifestations, and its effects should always be tried in obstinate cases.—*Deutsche Med. Wochen; Practitioner.*

Treatment of Indigestion and Heartburn.

In the course of an article in the *Practitioner*, January, 1881, Dr. J. Milner Fothergill writes:

For the purpose of whetting the appetite, and thus acting reflexly upon the gastric secretion, we employ the class of agents known as bitters. To these we add hydrochloric acid. Ringer has pointed out how an alkali taken into the stomach before a meal, when the stomach is alka-

line, produces a freer flow of acid afterward. Consequently we comprehend the value of that well-known preparation indifferently termed, "Haust. Stomach," or "Mist. Mirabilis," or "Mist. Rhei et Gentian," in the various hospitals; a combination of world-wide fame. One drawback to this combination of rhubarb, gentian and soda is, that the student becomes familiar with it and its virtues, but remains ignorant of its exact composition, and so loses sight of it when he enters upon practice for himself. Such a mixture before meals, followed by ten drops of hydrochloric acid after the meal, will often make the difference betwixt imperfect digestion, producing discomfort, and digestion so perfect that it does not provoke consciousness. Or where there is much irritability in the stomach, *i. e.*, when a bare, red tongue, imperfectly covered with epithelium, suggests a like condition of the internal coat of the stomach, then bismuth is most soothing. The mixture of soda, bismuth and calumba is in use for such indigestion with good results. The dietary in such a case should consist of the blandest food, milk, with or without baked flour in it, beef tea with baked flour; nothing more, till an improved condition of the tongue tells of a more normal condition of the stomach. In such cases a plain opium pill at bedtime often soothes the stomach very nicely. Then there are cases where imperfect digestion is accompanied by the production of fatty acids, butyric and others, which add the phenomenon of "heartburn" to the symptoms; or there may be later products formed, which cause the bitter, hot taste in the mouth on awakening in the morning or after a post-prandial nap. It is usual to treat "heartburn" by the exhibition of an alkali, but this is not good practice. In union with an alkali the offending matter is nearly as objectionable as in the form of free acid. It is much better to give a mineral acid, as the hydrochloric or phosphoric, which breaks up the feebler organic acid. By such means we can aid the digestive act. Then at other times the indigestion is due to lithiasis, where the presence of uric acid impairs the efficiency of the gastric juice. In these cases all measures which do not entertain the causal relations of the dyspepsia are of little use. By the administration of potash in a bitter infusion, well diluted, taken half an hour before a meal, this element of trouble is removed. In all cases of

gouty persons suffering from dyspepsia, do not forget this cause of impairment of the gastric juice.—*Philadelphia Medical and Surgical Reporter*.

Therapeutic Uses of Tobacco.

In looking up the medical uses, etc., of tobacco, I find that very little mention is made in the various therapeutics of its employment as a constituent of poultices. Believing it to be a means of great value in certain painful affections, I desire to bring its use to the attention of physicians. Tobacco poultices were at one time rather generally used, but for some reason or other their efficacy has of late been lost sight of. I hope that the slight resurrection which I may occasion may prove of service to the profession.

A case or two from my note book will serve to illustrate the good effects of tobacco poultices.

Mrs. M., last fall, had intermittent fever, contracted through the ignorance of her physician in directing her, on the tenth day after confinement, to sit up the greater part of the day, and for nearly an hour to remain by an open window overlooking a large lot full of decaying leaves, weeds, animal matter, etc.

I was called in on the following day. Among the symptoms which presented themselves I found over the chest great tenderness and pain on the slightest pressure. I diagnosed this to be due to an irritated condition of the nerves or nerve-endings, and ordered flaxseed, mush and other poultices, one after another, but without avail. The pain still continued. I then gave medicine, belladonna, ointment, etc. I exhausted the list without giving relief.

I mentioned the case to my friend, Dr. J. V. Myers, of this city, who advised me to use a poultice of flaxseed and tobacco, equal parts, care to be exercised as to the toxical effects of the latter. I took advantage of the advice. The alleviation of the pain, which before the application was excruciating, was immediate and permanent. The relief was beyond my expectations. On the same patient this same poultice has on one or two occasions since done equally good and effective work.

Mrs. J. had an attack of perityphlitis. For the pain I ordered the usual medicines, together with mush and flax-

seed poultices. These had no effect. I then had applied the poultice of flaxseed and tobacco. There was an almost instantaneous cessation of the agonizing pain from which, for two days, the patient had suffered.

I cite the two above cases, because I know that there can be no mistake, but that the tobacco was instrumental in doing the good work.

In all instances when a simple poultice does not meet the success desired, I add tobacco to it in the proportion of one-half. The leaves are the best for the purpose, but the various kinds of clippings in the manufacture of cigars, etc., will answer. The tobacco should be cut up finely, and then well mixed with the flaxseed; the poultice is made in the usual manner. A piece of linen or gauze is to be placed between the poultice and the body. Care must be taken that the part to which the poultice is to be applied is not denuded of its skin, for the tobacco may, in such a case, give rise to symptoms of poisoning. I think that with ordinary care there can be no danger; in my hands this poultice has proven of great value.

I would ask that the readers of the *Reporter* employ this poultice when indicated, in the stead of the simple flaxseed poultice, and report their success or failure, as the cases may prove to be.—*Philadelphia Medical and Surgical Reporter*.

New Treatment of Abscesses.

In the wards of Dr. Steven Smith a new treatment of abscesses has been very useful. When the abscess points it is opened and the contents evacuated. The cavity is then injected with carbolized water, and over-distended for two or three minutes. The water is then pressed out, and over the whole area undermined by the cavity, small, dry, compressed sponges are laid and bound down with a bandage. Carbolized water is then applied to the bandage and injected between its layers until the sponges are thoroughly wet, after which a dry bandage is applied over all. The sponges, by their expansion, make firm and even compression upon the walls of the abscess, and hold them in perfect apposition, thus favoring a union. The dressing is left on for five or six days, unless there is a constitutional disturbance or pain in the seat of the former ab-

scess. It is found in most cases when the bandage is removed, that the abscess has completely closed by an approximation of its walls, and the external wound heals readily under a simple dressing of carbolized oil. A case was recently seen where this admirable result was secured in a child, although the abscess was a large one, originating in caries of the head of the femur, and opening on the outside of the thigh. No constitutional disturbance, no discharge, no reaccumulation, and no pain followed its use. Mammary and sub-mammary abscesses have been treated by this method with excellent results.—*Chicago Medical Review*.

Joborandi and Pilocarpin.

THE editor of the British Medical Journal gives the following *Resume* of the therapeutics of jaborandi (concluded):

Pilocarpin has been used with success in puerperal convulsions by Dr. Braun, who records a series of cases in which the most striking results were obtained. This mode of treatment has been advocated by Fancourt Barnes and others, although Fordyce Barker considers its propriety open to question.

Mr. Macnamara, in his recent work on Diseases of the Bones and Joints, recommends pilocarpin in septicæmia and records two very striking cases.

Jaborandi has been employed with success in many chest-complaints. For an ordinary cold or slight attack of bronchial catarrh it is almost a specific. The patient is given a two-dram dose of the strong tincture, or half a grain of pilocarpin, at bedtime. Profuse perspiration is induced, and in the morning he is well. We have employed this mode of treatment in very many cases and with the happiest results. Dr. Berkart and Dr. Mackesy have recently advocated its use in asthma, both peptic and bronchitic. The loss of fluid resulting from the administration of full doses has been found of service in pleuritic effusion. Three cases treated by Dr. Hunt, of the Wolverhampton and Staffordshire Hospital, were reported in the British Medical Journal of May 1, 1880. Dr. Newland speaks highly of hypodermic injections of pilocarpin in pleuropneumonia. After an injection of five eighths of a grain the patient felt greatly relieved, and was able to

lie down; his breathing became easier, he had no pain, and slept for four hours. The dose was repeated twice a day for three successive days, when the patient had so far recovered that further treatment was unnecessary.

Dr Murrell has recently called attention to the use of jaborandi and pilocarpin in the night-sweating of phthisis. He gives details of thirty-three cases in which it was administered with benefit. As a rule, the nitrate of pilocarpin was employed, and it was given by mouth and not hypodermically. The dose, with a few exceptions, was one-twentieth of a grain, either in solution in water or made into pills with sugar of milk. It was given only at bedtime, unless the sweating was very profuse, when it was repeated during the night. As a rule, but little improvement was noticed on the first night; but on the second and third nights the sweating was less, and by the end of a week had completely ceased. The perspirations when once checked did not, as a rule, return for many weeks. It was frequently noticed that the jaborandi or pilocarpin eased the cough and facilitated expectoration. Dr. Murrell recommends jaborandi in ordinary winter-cough, giving a full dose one or two nights at bedtime, and then smaller doses three or four times a day for a week or more. In chronic bronchitis, inhalations of jaborandi by a Siegle's spray-apparatus are decidedly beneficial.

Jaborandi has been recommended in diabetes insipidus, and in two cases under the care of the late Prof. Laycock, of Edinburgh, the patients were decidedly benefited by the treatment. In another case, reported by Dr. Ringer, the jaborandi, although given for forty-four days, in no way influenced the amount of urine secreted, while the liquid extract of ergot quickly reduced it to the normal. Good results have also been obtained in diabetes mellitus by hypodermic injections of pilocarpin frequently repeated. In one instance, after each dose, there was a striking diminution in the amount both of sugar and of water excreted, and this diminution lasted several days.

An attempt has been made to introduce jaborandi as an ecboic, but for this purpose it has found but little favor with obstetricians. Mr. Clay published a case of contracted pelvis in which induction of premature labor was attempted by giving hypodermic injections of pilocarpin, but the result was unsatisfactory; and finally Barnes'

bags had to be introduced and the forceps applied. It has been shown by Fancourt Barnes and others that in ordinary labor pilocarpin can not be used in place of ergot. Pilocarpin is sometimes employed to stimulate the secretion of milk in women who are suckling. The whole subject has been discussed in the pages of the British Medical Journal.

Professor Pick, of St. Petersburg, has published the results of two and a half years' experience of the use of pilocarpin in skin-diseases. He usually gives one sixth of a grain in solution twice a day, so as to induce slight perspiration, the treatment being continued for several weeks without intermission. The skin becomes softer and more pliable, scaliness diminishes, and the hair is less brittle. In two cases of pruritis senilis and one of urticaria a cure was effected; but in eczema, psoriasis, and alopecia areata the results were unsatisfactory. These results have been abundantly confirmed by Chadzynski and others. We have it on the authority of Dr. Schmitz, of Cologne, that pilocarpin possesses the peculiar property of stimulating the growth of the hair. It has been given with decided benefit in advanced syphilis. Mr. Lockwood, of the Lock Hospital, recently reported a series of cases treated by this method; and Prof. Lewin, as the result of a number of observations made on thirty-two prostitutes, confirms his results.

Dr. Ortille, of Lille, records a most obstinate case of hic-cough in which pilocarpin gave relief after the failure of morphia, electricity, and numerous other remedies. In belladonna-poisoning, jaborandi promises to be of use, provided only that sufficient of the antidote be given. In one case it was found necessary to give hypodermic injections of pilocarpin, in all amounting to six and a half grains.

Hydroleine.

THIS preparation, to which the distinctive name of hydroleine (hydrated oil) has been given, is not a simple emulsion of cod-liver oil, but a permanent and perfect saponaceous emulsion of oil, in combination with pancreatin soluble in water, the saponification producing a cream-like preparation, possessing all the necessary qualities of chyle,

including extreme delicacy and solubility, whereby a ready and perfect assimilation is afforded.

FORMULA OF HYDROLEINE.

Each dose of two teaspoonfuls, equal to 120 drops, contains:

| | | |
|---------------------|-----------|----------------------|
| Pure oil, | | 80 m (drops). |
| Distilled water, | | 35 “ |
| Soluble pancreatin, | | 5 grains. |
| Soda, | | $\frac{1}{3}$ grain. |
| Boric acid, | | $\frac{1}{4}$ “ |
| Hycholic acid, | | $\frac{1}{20}$ “ |

DOSE.—Two teaspoonfuls alone, or mixed with twice the quantity of soft water, to be taken thrice daily, with meals.

The use of the so-called emulsions of cod-liver oil during the extremely sensitive condition of the digestive organs always accompanying consumption does not usually afford beneficial results. Those of the profession in this country who have under their care cases of consumption, diabetes, chlorosis, Bright's disease, hysteria, and, in short, any disease where a loss of appetite is followed by a rapid breaking down of the tissues of the body in its effort to support the combustion supplying animal heat, are urged to give this preparation a trial. It is supplied by the agents for the United States, KIDDER & LAIRD, No. 83 John Street, New York, who will forward literature relating to the subject upon application.

MICROSCOPY.

Examination of Sputa.

IN suspected cases of phthisis where it is very desirable to know the progress made by the disease, great aid may be procured many times by an examination of the sputa of the patient. It is now a recognized fact that phthisis has been diagnosed, and is diagnosed in this way, weeks, months before other signs are manifest.

As expected ingredients in the sputa, one finds remains of food, starch granules, epithelium, air bubbles, mucous cells, pus cells, blood corpuscles, large granular cells, and, perhaps, pigment cells. If now besides these are found fragments of lung tissue, as yellow elastic fibers, it shows

that there must be a disintegration of the pulmonary tissue, a condition which must denote serious trouble. If these fibers are not found it does not by any means prove that serious trouble may not exist, but their presence is very significant.

Some special directions should be given to the patient whose sputa we are about to collect. First, the mouth should be carefully and thoroughly rinsed and the teeth brushed after each meal. Second, the vessel in which the sputa is collected should be scrupulously clean. Third, if the patient is in the habit of using tobacco, it should be denied during the collection of the sputa, as the fibers of the leaf might mislead and cause a wrong diagnosis. If the amount of sputa is small, then all raised during the twenty-four hours should be saved. If large, that first raised in the morning should be preferred.

Any little grayish masses should be chosen and placed at once under a microscope. Acetic acid will clear up the mucous, etc., and render more distinct the yellow fibers if they are present. If this examination reveals nothing, the following method should be adopted:

Make a solution of sodic hydrate, 20 grains to the ounce of water. Mix the sputa with an equal bulk of this solution and boil. Then add to this mixture 4 or 5 times its bulk of cold water. If possible, pour into a conical-shaped glass and set aside. Soon the yellow fibers, if present, will fall to the bottom; from where they can be drawn up with a pipette and examined. Several glass slides should be examined at a single sitting, and the examination should be repeated every few days until the presence or absence of these fibers is satisfactorily demonstrated.

Methods of Examining Lung.

In order to study lung tissue, portions of fresh lung may be teased or picked, acetic acid or alkalies added, and examined at once. This shows readily the elastic fibers. The frog's lung may be inflated and dried as above, and thin sections made in every direction. The sections can be moistened, stained, and treated with the acetic acid, when quite satisfactory examination can be made. If possible, however, the blood vessels and the air passages should be fully injected. It is in this way only that one

gets anything like an intelligent view. In the smaller animals the *venæ cavæ* are tied, and the nozzle of the syringe secured in the right ventricle. The left ventricle is opened to allow the escape of the blood as it is forced out by the injecting material. At the same time the injecting mixture is flowing in the vessels the lungs are partially expanded by means of a blow-pipe in the trachea or bronchus. In a few moments the opening in the left ventricle is closed to prevent the escape of any of the injecting mixture. The color of the lungs will decide when they are sufficiently injected. Prussian blue has afforded all that could be desired in our hands.

Then very small pieces of the injected lung are placed in melted cocoa-butter and allowed to remain there for two or three hours, when they are removed and the butter allowed to harden. Thin sections can be made with a razor in every direction, with or without the aid of a microtome. Instead of inflating the lungs with air, melted cocoa butter may be used. Oil of cloves dissolves out the butter in a short time, when alcohol can be added to get rid of the oil. The specimens can be stained now with carmine or logwood, cleared in oil, and mounted in dammar. These organs may be hardened by injecting in the trachea, or one of the bronchi, a weak solution of chromic acid, one-sixth per cent.

Enough should be injected to distend the lungs slightly, when the trachea or bronchus should be tied and the whole lung placed at once into some of the same solution. The lungs must be cut in small pieces in a few days and placed in a fresh solution, either of the same strength or slightly increased. In a week or ten days the pieces are transferred to diluted alcohol and in a few hours to spirits of full strength. Sections can be made now, stained, cleared and mounted. The lungs of embryos should be studied especially. Simple hardening in alcohol, staining and clearing, will be sufficient to enable one to recognize the structure of the whole organ.

Pigmented lungs or portion of lung are not uncommon. A fine, black, granular pigment is observed in the walls of the alveoli. This may be caused by small effusions from the pulmonary capillaries; yet it is almost invariably of extraneous origin, being composed of minute particles of carbon inhaled in the smoke and soot. The lungs of those employed in coal mines are made sometimes quite

black by their inhaling particles of carbon in a finely divided state. Some of these particles may enter the lymphatics and be carried to the lymph glands of the bronchi, or more distant structures. Animals confined in a sooty room suffer the same pigmentation of their lungs.

If it is desired to examine lung tissue after it has undergone some of the progressive inflammations, small pieces should be hardened in chromic acid or Muller's fluid, and sections carefully made at the proper time.

Double and Treble Staining.

THE process of using dyes of two different colors, so as to differentiate more clearly certain parts of a microscopic section of an organ, is, Dr. W. Stirling considers, of the greatest value, and can be employed with excellent results even by students. Having used various methods for the last three years, he now gives a brief account of those combinations of colors which he has found to be most useful for class purposes, and the organs for which each combination is best suited.

(1.) *Osmic Acid and Picrocarmine*—*Blood of a Newt or Frog*.—Mix a drop of blood with a drop of a 1 per cent. aqueous solution of osmic acid, and allow the slide to stand. This "fixes" the corpuscles without altering their shape. At the end of five minutes remove the excess of osmic acid with blotting-paper, add a drop of solution of picrocarmine and a trace of glycerine to prevent evaporation, and set aside for three or four hours (or even longer, as no overstaining takes place). At the end of this time the nucleus will be found to be stained red, and the perinuclear part homogeneous and yellow.

(2.) *Picric Acid and Picrocarmine*—*Blood of a Newt or Frog*.—Place a drop of blood on a slide, and add a drop of a saturated solution of picric acid; put the slide aside and allow it to remain for five minutes, and at the end of that time, when the acid has "fixed" the corpuscles (that is, has coagulated their contents), the excess of acid should be removed by means of a narrow slip of blotting-paper. A drop of a solution of picrocarmine should now be added, and a trace of glycerine to prevent evaporation, and the preparation set aside for an hour. At the end of that time remove the picrocarpine solution by means of

a slip of blotting-paper, and add a drop of Farrant's solution or glycerine, and apply a cover. The preparation may then be examined, when the perinuclear part of some of the corpuscles will be seen to be highly granular and of a deep yellow color, while the nucleus is stained red. In some of the corpuscles there may also be seen delicate yellow-colored threads, extending from the nucleus to the envelopes; in others, the perinuclear part remains uniformly homogeneous. This and the above preparation of blood-corpuscles can be preserved in glycerine.

The process for *Yellow Elastic Tissue*, *Yellow Fibro-Cartilage*, *Fœtal Bone*, and the *Aorta* are also described.

(3.) *Picrocarmine and Logwood*.—Stain the sections first with picrocarmine, and after staining wash them in water slightly acidulated with acetic acid. Stain them with *dilute logwood* solution till they assume a lilac tint. Wash them, and mount in glycerine or dammar; the great point is to avoid overstaining the sections with the logwood. This method does very well for skin, scalp, developing bone, and the non-striped muscular fibres of the mesentery of the newt.

(4.) *Picrocarmine and an Aniline Dye*.—Dr. Stirling has tried a great variety of the aniline dyes, but finds none of them so good, at least for gland tissue, as iodine green; it is used in the form of a 1 per cent. water solution. Stain the tissue in picrocarmine, wash it in water acidulated with acetic acid, and then stain it in a solution of iodine green. This solution stains rapidly, and care must be taken not to overstain the tissue. Rapidly wash the section in water, and mount it in dammar. The section must not be left too long in spirit before cleaning it with clove-oil, because the spirit dissolves the green dye. Specimens doubly stained in this way have been preserved for many months, and students succeed in the process with the best results. Few methods yield such good results and are so instructive for the purpose of teaching. All preparations stained with iodine green must be mounted in dammar.

(5.) *Picrocarmine and Iodine Green*.—*Fœtal Cancellous Bone*.—Stain a section of the cancellated head of a fœtal bone in picrocarmine, and after washing it, stain it with iodine green and mount it in dammar. All the newly formed bone is red, but in the center of each of the osseous trabeculæ the residue of the calcified cartilage on

which bone is deposited is stained green. No method differentiates so clearly this marked difference in the constitution of these trabeculæ. Many of the bone corpuscles are stained green.

Mounting Desmids.

DR. M. C. COOKE, in dealing with the subject of mounting desmids for the Microscope, considers that the preservation of the endochrome and its color is a matter of minor importance. For scientific purposes the empty frond is often of superior value to one filled with endochrome, as it permits the punctæ or markings of the segments to be seen, which are obliterated whilst the endochrome remains, and in the genus *Cosmarium* this is of greater importance than ever.

For the study of the endochrome alone its presence is of course most important; but this can be done, and drawings made from the plant in the living state, and if specimens can be mounted with the endochrome unchanged and uncontracted, so much the better, but no method has yet proved entirely satisfactory. Dr. Cooke kept some slides for twelve years mounted in silicates of potash and soda, but half of them deliquesced. Mr. Wills, however, kept slides much longer by simply using the water in which the Desmids were collected and never leaving them exposed to the daylight.

One great difficulty in mounting objects with such thin and delicate cell-walls as desmids is to employ a medium of no greater density than the cell-contents. If a denser medium, such as glycerine, be used, the endochrome immediately contracts, and never expands again as before. Water, or water containing a little camphor, is of equal density, and no change can be detected.

After all, the preservation of the endochrome is of less importance than the perfect contour of the cell. If there is any contraction or collapse, the objects are useless. Supposing, therefore, that there is no necessity to preserve the endochrome, there is another feature to remember besides the preservation of contour, and that is, that the medium employed should not render the delicate cell-walls so transparent as to become ultimately invisible. In simple water Dr. Cooke, found no difficulty in discerning the structure of the cell-walls after a period of not less than

twelve years. So much can not be said for glycerine. Empty fronds, both of desmids and *Volvox*, stained of various colors, exhibit all the details in an unexceptionable manner.

GLEANINGS.

LICHEN RUBRUM EXUDATIVUM TREATED BY SUBCUTANEOUS INJECTIONS OF ARSENIC.—Kroeber exhibited to the Berlin Medical Society a joiner, aged 39. who had been suffering for a year and a half from this affection, and who had been treated with marked success by injections of Fowler's solution. The patient was first seen in May, 1880, when his back, from neck to lower border of thigh, his breast and abdomen, and, in less degree, his arms and forearms, were covered with innumerable dark-red, firm, shining, and for the most part conical-shaped elevations, which in some situations became confluent. The excessive itching prevented sleep, and the patient was consequently much debilitated. On account of the weakened condition of the patient, it was considered inadvisable to administer internally the large doses of the remedy required in the treatment of this disease; consequently the subcutaneous method was selected. A mixture of liq. potass. arsenit., one part, aquæ destill., two parts, was employed, of which 0,58-0,82 (once 1,16) was administered daily. In five days 1,28 grm. of Fowler's solution, altogether, was injected. The patient had quiet nights after the first injections, whereupon he absented himself for a time. Returning afterward, during eighteen days, 2,61 grm. more of the Fowler's solution was injected—this time diluted only with equal parts of water. After the third injection, the itching diminished markedly; after the fifth, the entire eruption was paler and flatter, and finally the itching entirely disappeared, the patient slept excellently, and only exhibited on his trunk some brown spots, with a trace of flat elevations under the right scapula. Five and a half months later, the patient's general condition was good, and there had been no relapse.—*Deutsche Med. Wochens.*

DIFFUSE INFLAMMATION OF THE EXTERNAL AUDITORY CANAL.—Mr. E. C. Baber, M.B., of Brighton, in a paper on this subject (British Med. Journal), states that the disease

must be distinguished from the circumscribed variety where small abscesses form in the meatus. In diffuse inflammation the walls of the meatus swell uniformly, so that often the smallest speculum can not be introduced. When the swelling subsides slightly a speculum well flattened at the inner end will show the tympanic membrane recognizable only by its position, the manubrium of the malleus and the light spot being hidden by the thickening through inflammation of the epidermic layer of the membrane. Free secretion often exudes from the walls of the meatus without any perforation existing in the membrane. It is most important to diagnose this complication in healing this disease. For treatment leeching is useful, and care must be taken that the leeches are applied close to the ear. Incision of the inflamed tissues in the meatus is necessary when the case is severe, with danger of the adjacent bone being affected. An hourly injection of from five to ten drops of a solution of acetate of morphia (sixteen grains to the fluid ounce) greatly relieves the pain. In the chronic stage the surgeon should frequently cleanse the meatus with cotton wool. This is less irritating than the syringe. Glycerin of borax is the best lotion for injection.

THE CURE OF VARICOSE VEINS BY SUBCUTANEOUS LIGATURE.—Dr. John Duncan, of Edinburgh, employs carbolized catgut for the radical cure of varicocele (*British Med. Journal*). The veins are separated from the artery and vas deferens, and a needle armed with catgut is thrust through at the point of separation; it is then reintroduced at the orifice of emergence, made to pass between the veins and the skin, and brought out at the original entrance; the two ends are then firmly knotted together and cut short. By traction on the scrotum the knot is made to disappear entirely, and the punctures are covered with salicylic wool saturated with collodion. The same maneuver is repeated an inch higher and sometimes a third ligature is advisable. A hard lump of coagulum forms between the ligatures, tender at first, but soon diminishing in size and becoming insensitive. Dr. Duncan treats varicose veins of the leg in the same manner; the introduction of the point of the needle into the aperture of exit of the first puncture and the tightening of the loop of catgut is difficult when there is brawny edema. In such

cases the patient should be kept at rest and an India-rubber bandage applied for a few days. A single ligature is not sufficient, and to close the lumen permanently two must be applied about one inch apart. It is essential that no branch be given off in the segment of vein between the ligatures.

TREATMENT OF DELIRIUM TREMENS.—Dr. Villard reports a case of delirium tremens which he treated successfully by means of hasheesh after the administration ineffectually of chloral and opium. Dr. Villard has thus been able to add further testimony as to the value of this remedy, which appears to be less used in France than it is in this country. In the case reported, chloral hydrate in five grain doses, which was absorbed in ten hours, was useless, while extract of opium in quantities of fifteen to twenty centigrams (two and one-fourth to three grains) every twelve hours, continued for two days, was found equally futile in controlling the symptoms. Two dessert-spoonfuls of julep, containing fifty centigrams (gr. vijss) of hasheesh, given hourly, was, however, at once found to have a tranquilizing effect.—*Le Progres Medical; London Practitioner*.

[It would be safer in any case to commence with a smaller dose of the Indian hemp, increasing the quantity till the desired effect should be obtained].

CHLORAL HYDRATE IN DYSENTERY.—Dr. Curci (New York *Med. Record*) employs successfully chloral hydrate in the treatment of typhoid diarrhea and dysentery. In the latter disease the remedy is combined with potassium chlorate. Using barley-meal water for menstruum, he gives the chloral to an adult in from fifteen to forty-five grains daily by mouth. Given by rectum, one dram and a half of chloral to two quarts of barley water will serve for ten clysters. Before administration by mouth a light purge should be given.

Dr. C. states that besides being narcotic, chloral is sedative, astringent, anti-diarrheic, coagulent, and antiseptic. It calms the cerebral centers as well as the sympathetic, which latter above all is effected in dysentery. By reason of its influence over the sympathetic the peristaltic action of the intestines is diminished and the pain relieved.

BOOK NOTICES.

CLINICAL LECTURES ON THE DISEASES OF OLD AGE. By J. M. Charcot, M. D., Professor in the Faculty of Medicine, of Paris, Physician to the Saltpetriere, etc. Translated by Leigh H. Hunt, B.Sc., M. D., Instructor in the University of the City of New York. With additional Lectures by Alfred L. Loomis, M. D., Professor in the Medical Department of the University of the City of New York. 8vo. Pp. 280. New York: Wm. Wood & Co. Cincinnati: H. Stacey.

This volume is the sixth of the series of twelve volumes of "Wood's Library of Standard Medical Authors" for 1881.

Just such a work as this, we have no doubt, every practitioner, who has been in practice for a considerable length of time, has felt the need of. Old people are not only liable to the ordinary diseases, but they are also liable to diseases peculiar to themselves. And, besides, age modifies the treatment of all diseases. Fatal would the result be, generally, if the same treatment was instituted in a pneumonia, in a person of seventy years old, that would be proper to be employed in an individual of thirty-five or forty years of age. A modification would be necessary that could not be explained by differences in strength. The modifying conditions of age are peculiar, and can only be learned by their separate study. We have numerous works on diseases of children; for there are not only diseases peculiar to childhood, but it is well known that the infantile state has a modifying influence, that must be recognized in the treatment of all of the complaints of infancy. But there is no greater need for separate works on diseases of children, than there is for the diseases of old age. Prof. Charcot very correctly observes:

"The importance of a special study of the diseases of old age can not be contested at this day. We have come to recognize in reality that, if the pathology of childhood countenances clinical considerations of a special kind, and if it is indispensable that it should be known from a practical point of view, then also 'senile pathology' presents its difficulties, which can not be surmounted except by long experience, and a profound acquaintance with its peculiar characteristics.

"And yet, gentlemen, this very interesting portion of

medicine has been neglected for a long time, and has only succeeded in obtaining its autonomy in our day.

"It was at an epoch very near ours, in France and in this very hospital, that the pathology of old age was constructed and asserted, if I may be allowed the expression, in all of its originality. Before that time one could scarcely cite a work in which the slightest indication could be found of the particular physiognomy of the diseases of old age. If you except the little treatise of Flayer, published in 1724, the more recent work of Welsted, and lastly that of Fisher, which dates as far as 1766, most of the medical works of the past century which touch, in a special manner, upon the senile period of life, have a literary or a philosophical bearing; they are more or less ingenious paraphrases of the famous treatise, 'De Senectute' of the Roman orator.

"It was reserved for Pinel to point out, if not to fill up the gap, at the epoch when he wrote his 'Treatise on Clinical Medicine.'"

The work of Prof. Charcot is composed of some thirty lectures, in which all of the diseases to which old people are liable are exhaustively treated. The lectures, which we think will be found particularly interesting, are those on nodular rheumatism, and rheumatism generally; symptomatology of chronic progressive articular rheumatism; clinical importance of thermometry in old age; senile pneumonia, in regard to which there are two lectures, and senile chronic catarrh; cerebral softenings; cerebral hemorrhage, and senile hypertrophy of the prostate gland. In mentioning these lectures we do not wish to detract from the merits of other lectures, for they also are highly interesting and valuable.

The lectures on senile pneumonia, and catarrh, and some eight other lectures are by Prof. Loomis, of this country. The work will add greatly to the value of the series of 1881, of Wood's Library of Medical Authors.

A PRACTICAL TREATISE ON IMPOTENCE, STERILITY AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By Samuel W. Gross, A. M., M. D., Lecturer on Venereal and Genito-Urinary Diseases in the Jefferson Medical College, etc. 16 Illustrations. 8vo. Pp. 174. Philadelphia: H. C. Lea's Son. Cincinnati: R. Clarke & Co. This work is by the son of the venerable and very dis-

tinguished surgeon who has obtained so illustrious a name throughout the world.

The work before us is quite an important one, and will doubtless be studied with much interest by all interested in the diseases of which it treats. There is no little ignorance prevailing in regard to the affections of impotence and spermatorrhea, from a misapprehension of their pathology, and we have no doubt that the work before us will do much in the way of relieving it. The author seems to have given these affections a great deal of study, and has consequently evolved a good many facts, which will aid much in the way of successful treatment. He shows very conclusively that these diseases of the venereal organs are the result of reflex disturbances of the genito-spinal center, and are almost invariably induced or maintained by appreciable lesions of the prostatic portion of the urethra, and are not, as usually described, consequent upon functional affections of the testicles.

The author's aim has been to supply in a compact form, as he states, practical and strictly scientific information, especially adapted to the wants of the general practitioner, in regard to a class of common and grave disorders, upon the correction of which so much of human happiness depends, and he has certainly succeeded to an extent to afford him much satisfaction.

If the general practitioner will procure this work and study it, he will be able to do a world of good to the very many who consult him in regard to impotence and spermatorrhea, and whose minds are tortured and lives made unhappy in consequence of the impression that the *manly principle of manhood*, virility, has been destroyed, and, without it, they oftentimes care but little about living. With the loss of virility, with very many, there is attached a feeling of mortification, humiliation and self-debasement, that overcomes the instinctive desire to live. The family physician is the one who should know how to treat such a case, but not unfrequently, through his ignorance, unable to afford relief, the patient falls into the hands of the quack, by whom he is both made worse and robbed.

In chapter first the author treats of Impotence, dividing it into "Atonic Impotence," "Psychical Impotence," "Symptomatic Impotence," "Organic Impotence." The second chapter treats of sterility, in which is described the composition of the semen, spermatozoo, functions of the pros-

tatic fluid, etc.; also **AZOOSPERMISM**, the various deformities of the penis from different causes, obliteration of the epididymis and bas deferens.

But we have not the space to describe the various conditions that pertain to impotence and spermatorrhea, of which the work treats. They are all fully discussed—their pathology lucidly described, and the treatment given which observation and experience has proven to be the best.

A NEW FORM OF NERVOUS DISEASE, TOGETHER WITH AN ESSAY ON ERYTHROXYLON COCA. By W. S. Searle, A. M., M. D., 132 Henry St., Brooklyn, N. Y. Fellow of the Medico-Chirurgical Society of New York, etc. 16mo. Pp. 138. New York: Fords, Howard & Hulbert. Cincinnati: R. Clarke & Co. Price, \$1.00.

The author of this work claims that he has discovered a new disease of the nervous system, not before recognized or described. In the preface there is printed a letter from Charcot, of Paris, acknowledging the claims of the author to be valid.

This new disease is characterized by two principal phenomena, one or both of which are always present, and both of which are sure to occur, sooner or later, if the disease is not cured.

One of these phenomena is a sensation of sudden *shock*, or *blow*, or *explosion* in some part of the head, usually the occiput, usually accompanied by *intense vertigo*. The other distinctive phenomenon is a condition of passive congestion, usually of the cerebellum only, but sometimes extending, on the one side, to the cerebrum, and, on the other, to the upper portion of the spinal cord.

The shock is always followed, and sometimes preceded, by the congestion, but the latter is always aggravated by the occurrence of the shock. The congestion is very protracted. It may precede the occurrence of shock for a year or more, and it often fills the entire interval between the shocks, but it is usually the first of the two phenomena to disappear in the progress of cure. Not seldom it is the sole symptom, shock never being developed.

Time and further research will prove the justice of the claim of Dr. Searle of a new discovery in nosology.

The latter third of the work is devoted to a description of the physiological effects upon the system of Erythroxy-

lon Coca. The account is highly interesting indeed. The article having such a terrible name is a plant which has its habitat in Peru, S. A. It is said to increase greatly the powers of endurance—those eating a given quantity of the leaves being able to go without food or drink several days, and endure at the same time great bodily exertion. Dr. Searle is disposed to introduce it into this country, to take the place of tea and coffee—making an infusion of the leaves.

THE MOTHER'S GUIDE IN THE MANAGEMENT AND FEEDING OF INFANTS. By John M. Keating, M. D., Lecturer on Diseases of Children at the University of Pennsylvania, etc. 16mo. Pp. 118. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: R. Clarke & Co. Price, \$1.00.

This little work contains a fund of most valuable information in respect to the management of infants. Every physician, mother and nurse should have a copy of it, and attentively peruse it. There is far more complexity in the nursing of children than is generally supposed. The knowledge involved does not come by intuition, but is only gained by long experience and observation. We have no doubt, if more intelligence was observed in bringing up children, thousands of lives would be yearly saved that are now lost through ignorance.

This little work gives full information in regard to the care of infants after birth—washing, attention to navel, nursing, mother's milk, injurious effects of alcohol when used habitually to give milk, laxatives for mother and child, wet-nurses, bottle-feeding, how to keep milk fresh, use of farinaceous foods, condensed milk, bathing of infants, temperature of water, milk eruptions, character of clothing, etc. Along with these subjects many others, which we have not space to mention, are discussed, having reference to the infant previous to dentition. The second part is devoted to the consideration of infancy during dentition. In this division of the work very much valuable information is given. Lancing of the gums is treated of, use of opium, convulsions, food, fresh air, bathing, and many other topics. Part third treats of infants after early dentition. It contains two chapters, giving most important information. As we have stated, the work will be found a valuable one for physicians, mothers and nurses.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—At this writing this organization has just opened its session in this city. There is promise of a very large gathering of scientists, and that the meeting will be a most interesting and profitable one. Among other men of science, microscopists have commenced coming in.

Of those who will make displays, and are already getting their exhibits in order, are Mr. W. H. Bulloch, of Chicago; Mr. W. H. Walmsley, of Philadelphia, representing R. & J. Beck, of London; Mr. Lomb, of Bausch & Lomb, of Rochester, N. Y., and Mr. E. Gundlach.

The display of Mr. Walmsley will be very large, indeed. He displays, of course, the Beck "International" and other smaller stands, together with a numerous series of objectives. Mr. Bulloch, of Chicago, shows his magnificent "Congressional" stand, and other smaller ones. The "Congressional" is certainly a superb stand, having all of the modern improvements, and every convenience that one could possibly desire in a microscope stand.

The Messrs. Bausch & Lomb will make a very fine exhibit, indeed, with their superior stands and excellent objectives and accessory apparatus. They have brought out some quite valuable improvements in the way of a dissecting microscope and turn-table, and some other instruments. In a subsequent number of the NEWS we will describe these inventions at length. This house makes some very fine lenses, at a low price—lenses that are capable of the finest work. Mr. Edward Bausch, we believe, superintends the making of objectives, having attained to great skill in that direction.

It is greatly to be regretted that Dr. J. J. Woodward, of Washington, will probably not be present in consequence of being in attendance upon President Garfield, who is at this time in a very low condition, with a prospect of soon dying. When Dr. Woodward's thorough knowledge of optics is considered, his wonderful skill as a manipulator of the microscope, his numerous inventions of accessory apparatus, his extensive employment of the photograph in conjunction with the microscope, and the improvements he has made, by which he has been enabled to take photographs of microscopic exhibits by the most powerful and finest lenses, and for other reasons, he stands confessedly at the head of the microscopists of the world. There are other distinguished microscopists in this country. So there are those of great eminence in England, as Carpenter, Beale, Hogg, Tyndall, etc.; and in France and Germany; but, purely as a microscopist, Dr. Woodward beyond doubt excels all.

Besides microscopic exhibits, Prof. Ward, of Rochester, exhibits his monsters. One of them is a mammoth, sixteen feet high.

As the visitor enters the hall nothing attracts his attention so much as the object in the center of the room. It is the mammoth, one of the most remarkable objects which has ever been exhibited in this country, and certainly the most remarkable ever seen in Cincinnati. Figures can give no adequate idea of his size, yet the figures must be given. He stands sixteen feet high, and, counting the forward curve of his tusks, is twenty-six feet long. His body is thirty-six feet in circumference; the sole of his foot three feet in diameter; the tusks are fourteen feet long, and one foot in diameter at the base. The whole body is covered with dark, shaggy hair, and under the throat it is from twelve to fifteen inches long. Never

before was such a monster seen, and one stands aghast at the sight and wonders if the whole is not a stupendous fraud. But it is not a fraud, and the wonder excited is universal. When exhibited at Chicago, two Irishmen were overheard talking about it. After gazing for some time in perfect astonishment, one said to the other: "An' faith, Pat, an' how did they get the baste here?" "Arrah, be-dad, ye fool, they druv him here, an' kilt him." In looking at such a colossal animal one is inclined to question the fact of any such beast ever having lived on the earth. But the evidence is so positive and conclusive that there can be no doubt of it. The history of the mammoth is as follows: For many years gigantic bones have been found in various parts of Europe, supposed at first to be those of giants. Their true character was at length recognized, but no one could imagine how the animal looked. At length Herr L. Martin, a constructor of natural history specimens of Stuttgart, conceived the idea of a restoration of the animal from these bones. Under the direction of Dr. Oscar Fraas, the director of the Palæontological Department of the Royal Museum of Stuttgart, he commenced the work. Taking the largest of the bones from the museum, laying them together and making careful measurements, they arrived at the size and form of the great animal. From these measurements the restoration was made, and the frame of the animal at last stood forth in all its glory. But the next thing was the skin. What kind of hair did the animal have? Here they had the most reliable data to guide them. For many years ivory had been found in large quantities on the northern shore of Siberia. It was extensively collected and taken away by shiploads. In 1799 a fisherman by the name of Schumahoff was exploring the coast for ivory. Near the mouth of the Lena River he noticed a huge black mass imbedded in a large block of ice. It was too deeply imbedded for him to discover its character. In 1801 the melting of the ice had disclosed a portion of the carcass. In 1804 it was completely disengaged, and the following year the fisherman cut off its tusks, weighing 300 pounds, and sold them to an ivory merchant for fifty rubles. In 1806 Mr. Adams was traveling and collecting in Siberia for the St. Petersburg Museum, and he found part of the carcass on the shore. The inhabitants had been allowing their dogs to feed on the flesh, and the skin was nearly gone, and one fore leg was missing. Every-

thing of value was collected, including thirty pounds of fur, transported to St. Petersburg, the tusks repurchased, and the whole mounted in the museum, where it now stands, one of the most valuable and unique specimens in the world. It was from the hair found on this mammoth that Herr Martin took his idea, and the hair on the restoration is as close a copy as it was possible to make. During one of his many trips to the Old World, Prof. Ward saw the monster animal. With his characteristic energy he immediately proposed to purchase it and transfer it to America, but the price asked, about \$15,000, was too much even for him. On his return from his African trip he made an offer of a smaller sum, and it was accepted. He immediately repaired to Stuttgart, employed ten men for six days in taking the animal to pieces, packed it in fourteen enormous boxes, and shipped it to Rochester. The weight was 14,694 pounds, and the freight alone amounted to \$768. Thus was the great curiosity brought to America, and since its arrival here it has been exhibited in several cities, and attracted universal attention. At the Chicago Exposition it was said that the crowd was always greatest around the mammoth, and thinned out in all directions from it. During our coming Exposition it will form the attractive feature, and will undoubtedly be the drawing card of the whole show.

UNNECESSARY SURGICAL OPERATIONS IN THE TREATMENT OF THE DISEASES OF WOMEN.—Dr. Clifton E. Wing, of Boston, has sent us a pamphlet in which he contends that there is entirely too much treatment of diseases of women. We are also disposed to think so. A few years ago there was scarcely a specialist for such diseases; and many intelligent physicians would not have known what the term gynecologist meant. Now they are to be found on almost every square in cities, and some squares have half a dozen. Every village, too, has from one to half a dozen. All of them claim to have a large business. How is it? Can it be that female diseases increase in population as the gynecologists increase, or do gynecologists increase in consequence of the increase of female diseases? It almost seems that the former is true, for, in our memory there has been a time when a female operation was scarcely heard of. Now and then a case of cancer of the womb would occur in a whole county, or a vesico-vaginal fistula as the result of the ignorance of an old midwife. Once in a decade, in

an extent of territory embracing one third of a state, an ovarian tumor would be heard of. Besides these, except now and then, a case of leucorrhea presented itself which yielded immediately to simple treatment, or a case of disordered menstruation from cold consulted him, a physician would practice a lifetime without meeting a case of female disorder. If gynecologists exist now in such great numbers, simply because they are demanded by the necessities of the times, springing up as they have in only the last few years, for previously none existed, the increase in female diseases is really alarming and the causes should be investigated.

Says Dr. Wing in his pamphlet: "That there exists at the present time, among those who practice the treatment of the diseases of women, too great a love for operative procedures, is an opinion frequently heard expressed by members of the medical profession." He then proceeds to express it as his opinion that gynecologists often operate, when no operation is necessary, for the purpose of increasing their fees; since, for the performance of anything which can be called "a surgical operation," the fees are much greater than the amounts ordinarily earned in the honest treatment of cases by other and simpler means. While this may be true in many instances, for, in a profession as large as that of the medical profession, there must not be a few unscrupulous men, yet we are disposed to believe that a good many physicians, who have set themselves up as gynecologists, are disposed to persuade silly women that they have female complaints where there is nothing of the kind the matter—more for the purpose of having something to do than for actual gain, although they feel it incumbent upon themselves to charge a fee. And in very many instances they very probably persuade themselves to believe that a party has a disease peculiar to her sex, for it is not difficult to believe what one desires to believe. Many women have a morbid disposition, as it were, to regard themselves as affected with some disorder of the sexual organs; and, in this way, to account for every ailment. Such are constantly running to the offices of gynecologists, where they too often receive encouragement in their notions whether correct or not. We know most respectable ladies, having all the external appearance of good health, and going about all the time, who are constantly being treated by gynecologists, being under the care of one for awhile and then of another.

One specialist will treat for same ovarian difficulty, another will say that there is chronic pelvic cellulitis, and another will assert some other malady. We may be in error, but we often feel confident that in some of the cases, if the patient's mind could be drawn from herself and directed to some domestic pursuit, all signs of disease would soon cease.

We also agree with Dr. Wing that an abnormal condition may often exist that produces us inconvenience, and, therefore, requires no interference. Of course, if the perineum is torn through, serious results will be apt to follow soon, for the perineum is an essential support to the contents of the pelvis; but practitioners of long experience know instances of partial laceration of perineum, produced years before, that are unaccompanied by troublesome symptoms; and we have in our mind a case, where a laceration occurred in a first labor, as the result of the use of forceps, which extended into the rectum a short distance, which very remarkably produces inconvenience only occasionally. But where is the gynecologist who will not advise an operation in any degree of laceration? The lady whom we have just mentioned, has been actually harassed by different gynecologists to have an operation.

In conclusion, we will observe that there is entirely too great a propensity to meddle with the female organs of generation—*i. e., for the purpose of remedying supposed maladies.* Of course we would not charge a physician with any but honest motives in all of his dealings.

MEDICINE IN GERMANY IN 1830.—At the present time it seems to be pretty generally conceded that the Germans hold a first position in the cultivation of a number of the departments of medicine, especially in minute anatomy, physiology, pathology, medical chemistry, etc.; but Prof. Charcot, in his work on the "Diseases of Old Age," places them far down in the ranks of progress half a century ago. He admits that now, however, they have redeemed themselves to a great extent. We quote from him as follows:

To place in its true light the favorable influence which, in another way, scientific tendencies might exert upon the advancement of medicine, it is sufficient for me to recall to your minds the remarkable transformation which this science has undergone during the course of the last twenty years in a neighboring country of ours—in Germany. Let us, for a moment, cross over to the other side of the

frontier, and in thought go back to about the year 1830. At that time Shelling and his daring 'Philosophy of Nature' ruled as absolute lords over the German minds. Poetical notions and transcendental conceptions were then the fashion, and a physician even permitted himself, in a treatise on mucous fevers, to seriously compare a blood globule with the terrestrial sphere, because both were round, flattened at the poles, and both possessed a central nucleus surrounded by an atmosphere.

"During that time medicine was reduced to a deplorable condition, although the Germans possessed translations of the principle works relating to pathology, which had just been published in France or England; still the progress accomplished by these last named countries was for the Germans as though it had never happened, for no one understood the importance of it. Physical diagnosis had never been formulated, either in the hospitals or private practice.

"In more than one German university the stethoscope was almost unknown. When they accidentally ran across one of these instruments, they examined it with a sort of infantile curiosity; or again, they greeted with sarcastic jests those few eccentric ones who, by means of this bit of wood, pretended to hear *unheard* of things. Besides, most of the diseases of the chest and heart, and chronic affections of the skin, were an almost unexplored region.

"Even when they began to take notice of the French, it was only to turn to ridicule, and this time with the appearance of justice, that strange mania which impelled them to consider all diseases as inflammations.

"Things remained in this state until about the year 1840; then the work of regeneration commenced, chiefly through the influence of Schœnlein, by the importation of French methods, and their intervention in the domain of the clinic. Then it became the time of pathological anatomy, brilliantly represented by Rokitausky. But Muller had already appeared with his physiology, and soon he created pathological histology, which was to remain for a long period an almost exclusive German Science.

"Gentlemen, you know the rest. Then the German universities presented the spectacle new to them, of an almost unheard-of feverish activity; and you are not ignorant of the fact, that the feverish labor, which even now does not show any signs of diminution, has already produced more than one fundamental work."

COMETS PRECEDE NATIONAL CALAMITIES.—We recently had a comet in view; it has only been a few weeks since it disappeared from sight. The tragedy at Washington calls to mind what was said by Alexander Howell, who graduated at Harvard University, 1664.

"Comets (say Naturalists) proceed from natural causes, but they oft precede preternatural effects. That they have been Antecedents to strange consequents is a universal truth, and proved by particulars, viz.: That which hung over Hierusalem before its extirpation by Vespasian, that vertical to Germany, before those bloody wars, etc. So that experience Attests, and reason Asserts, that they have served for sad Prologues to Tragical Epilogues. For the future, preludiums to what events they'l prove, may be proved by consequence, if they han't suffered a privation of their powerful Energie."

The comet of 1680 is described in John Foster's Almanac for 1681 as being visible to the naked eye in Boston, from November 19 to February 10, 1681, when it faded out of sight:

"And thus is this prodigious Spectacle removed, leaving the world in a fearful expectation of what may follow: sure it is that these things are not sent for nothing, though man can not say particularly for what: They are by most thought to be Fore-runners of evil coming upon the *World* (though some think otherwise), as was long since observed by *Cicero*, *ab ultima antiquitatis memoria notatum est Cometæ semper calamitatum prænuntios esse.*"

DECEASE OF ROBERT R. MCILVAINE, M. D.—We have no doubt the readers of the MEDICAL NEWS will be shocked, as we were, on learning of the decease of Dr. Robert R. McIlvaine. Dr. M. died in New York City, July 28th ult., and was buried, at his request, in Woodlawn Cemetery. He had been residing in New York City for near ten years.

No physician was better known in Cincinnati and throughout Ohio than Dr. McIlvaine. To the readers of the MEDICAL NEWS he was especially familiar, in consequence of his numerous communications and discussions published in it. About a year ago there was published in the NEWS the part he took in several discussions in the Medico-Legal Society of New York—one of the subjects being on Capital Punishment. Previous to his removing to New York, he was a frequent contributor to the NEWS.

In the medical societies of which he was a member, he always took an active part in the discussions, and was regarded an able disputant. It was in consequence of the part he took in discussions that he became so widely known, not only in Ohio, but in parts of Kentucky, Indiana, Illinois, and even other States west. At the meetings of the Ohio State Medical Society and other State societies, the marked features of his debates necessarily drew attention to him and made him prominent. His powers of

memory were truly wonderful, enabling him to quote dates, and data of every kind, so fluently that every one hearing him was struck with astonishment. But his memory was not developed at the expense of his other mental faculties.

We grant that it had far greater development than the others, yet it can not be disputed that his powers of abstraction, reasoning and judging were fully up to the average of intelligent men. If he had not been able to make good use of his facts by means of well-developed reasoning faculties, he could not have so well maintained his side of a discussion, which he always did. A vast mass of undigested facts are of as little avail in debates as a lot of weapons to a warrior who is ignorant of how to use them. Dr. McIlvaine was always able to use his superior information to the best purpose in a discussion, and when he failed in maintaining his part, it was through weakness of the cause he advocated, and not because he did not handle it well.

Dr. McIlvaine founded the Academy of Medicine of Cincinnati. He wanted a society, as he used to express himself, founded on democratic principles, in which there was no exclusiveness, in which the only requirements for membership were the possession of a diploma, from a reputable school of medicine, and an unblemished professional reputation; requiring a vote of the majority to reject, and not of a very small minority. He arranged that the society should meet in a hall, and not at the houses of members, where an expensive collation was spread, and every one felt himself to be a guest, and more or less under restraint. The first President was Dr. R. D. Mussey, then quite aged, and long since deceased. The meetings were monthly.

For a long time the Academy prospered—the attendance upon the meetings being large, and many good papers were read. In time, however, the interest in the new organization began to subside, Dr. McIlvaine having gone to Europe, where he resided for a long time, and not being on hand to inspire the members with his enthusiasm. We recollect well the first meeting he attended on his return, held in the office of Dr. J. F. White, on the corner of Fourth and Ran Streets, the Academy, in the meantime, having been compelled to give up its hall in Bacon's Building, on the corner of Sixth and Walnut Streets, in consequence of a want of funds to pay rent. At this meet-

ing there were not more than five or six members present, including Dr. McIlvaine. We were the secretary. The Dr., in some remarks, deplored very much the low state of the society, which seemed on the verge of extinction, and expressed surprise at the apathy of the members, which had brought it to the condition it was then in. He urged immediate action, and by his really eloquent remarks inspired with considerable enthusiasm those who were present. On his motion, arrangements were made immediately to hold weekly instead of monthly meetings, and to again procure a public hall in which to hold the meetings. Besides being placed on other committees, that were appointed in rejuvenating the organization, we recollect, he was made chairman of the committee to negotiate for a hall. Through his labors principally, for he was by far the most industrious worker, a lecture-room in the Dental College was procured, where for many years the Academy has met every week, except when it adjourns a few weeks during the heated term.

From this second founding, as it may almost be termed, by Dr. McIlvaine, the Academy has continued up until to-day, enjoying almost uninterrupted prosperity. At times discords have almost threatened its existence, but their effects have been only temporary—after the shock has been recovered from, the same prosperity has been resumed, so that, probably, there is not, at this time, a more active medical society in the United States than it is. The Academy owes Dr. McIlvaine a great debt, and should make recognition of its great obligation in some manner or other. Either a statue of him should be erected in the hall, or a fine painting placed on the wall.

The doctor, we believe, was a native of Pennsylvania. He was educated in the religious tenets of the Presbyterians, and always held that denomination in the highest esteem. He always spoke as if he thought that a calvinistic training developed strength of character and purpose in an individual, gave a high, moral tone, and, in brief, brought out to their fullest extent the principles of integrity, that should mark every true man and beautify his character. But he was himself not a communicant of any church. His knowledge of the Bible, however, was truly wonderful. It is seldom even that one finds a minister so versed in the Scriptures. He seemed almost to have them all, Old and New Testament, by heart. He could on the instant give book, chapter and verse of any text quoted.

His knowledge of history was phenomenal. There seemed not to be an event in the world's history, of sufficient importance to be chronicled, that he could not give the date of its occurrence and every particular pertaining to it.

Dr. McIlvaine was a man of very strong convictions, and never feared to state his sentiments. Although he never offensively obtruded his opinions upon persons, yet, when holding views that were unpopular, he had no hesitation in acknowledging them, and defending them on proper occasions. He was a reliable friend—one who defended a friend when assailed, and was not present to speak for himself. After the manner of Andrew Jackson—he would not sacrifice an old friend to make a new one, or to make half a dozen new ones. He loved the truth for the truth's sake, and always stated it as he believed it to be. He despised falsehood and humbug from his heart, and there was no one upon whom the mere glamour of outward show had so little effect. He was not faultless by any means; he had weaknesses, for frailty is a characteristic of humanity; but his faults did not prevent him dealing strictly justly with his fellow-men. His veracity was never called in question, and he was free from all vices. He never attended a theater in his life, and never witnessed a play on the stage. He owed no man anything, and if he became indebted to an individual one cent, as sometimes happens in making change, he would promptly pay it. We have known him to walk quite a distance to pay an indebtedness of one or two cents he had incurred.

He was the author of several pamphlets on medical subjects, the titles of which, as we write, we can not call to mind. As we have stated, he contributed numerous articles to the *MEDICAL NEWS*. What other journals he may have contributed to we can not say. At a period during the late war, we can not call to mind the year, he was Professor of Physiology in the Cincinnati College of Medicine and Surgery, Drs. Thos. Wood, Roelker, J. H. Tate, Daniel Vaughn, and others, embracing none of the present faculty, being his colleagues. He lectured very acceptably indeed, and was held in high esteem by the students. Seeing difficulties, however, in the way of the prosperity of the school, which he regarded insurmountable, he resigned, remaining in the school but one term. He was subsequently elected to a chair, but declined accepting.

He attended the Literary College at Marietta, O., but,

we believe, he did not graduate. He came to Cincinnati when a young man, and resided here until about ten years ago, when he removed to New York City, where he lived until he died. Soon after coming to Cincinnati, he took up his residence with Dr. Wm. Mount, of Cumminsville, a village near the city at that time, but now forming a part of the city. He studied medicine with Dr. Mount, and graduated at the Medical College of Ohio. After graduating he opened an office, and practiced his profession for awhile. How long, we can not now state. While practicing, he rode a very fine horse, which was noted for carrying his head very erect. This peculiarity was so great that it drew the attention of every one, and caused his horse, by unanimous consent, to be called "Bucephalus."

In course of time the doctor grew weary of practicing medicine, and retired from its labors. He, however, did not at all lose his interest in it, but retained it to the day of his decease. Soon after discontinuing practice he went to Europe, and was absent two years or longer, obtaining a conversational knowledge of French. He spent most of his time in Paris, although he visited other cities of Europe, and made the familiar acquaintance of all the distinguished medical men of that great metropolis. We have often heard him speak of his intimacy with Claude Bernard and other distinguished French physicians. At another time he visited Europe.

Dr. McIlvaine amassed considerable wealth by his own exertions. He owned valuable property both in Cincinnati and New York City. Notwithstanding his having considerable means, he never married. It was a source of great regret, however, when he became advanced in years, that he had not married when young. He frequently spoke in strong terms in deprecating the condition of single life. He thought a man could not be truly happy who did not marry and raise a family. We know that for a long time before he died, he experienced to a painful degree the loneliness of living alone. Although of naturally a buoyant mind, he felt very much his lonely condition—without a confidant, as only a wife can be, and one to sympathize with him in pleasures and sorrows—and it had at times a very depressing influence.

"*Requiescat in pace.*"—He was an upright man and a useful man. When he departed, he could feel that the world was the better of his having lived in it.

We append an account of the *post mortem*:—He had

been in failing health for two or three years. We really can not reconcile the disclosures of the *post mortem* with his condition during life. A year ago last June, when the American Medical Association met in New York, we visited him, and attended an entertainment with him at Coney Island. He seemed to be in tolerable health, and ate very heartily. A month or so after, about a year from this time, he visited Cincinnati. He then did not look well, but did not make much complaint. He dined with us, eating heartily. After that he visited Saratoga Springs, so a friend writes us. Last February, the same friend says, he had a severe chill, and from that he never rallied. We received during last spring a number of letters from him, in one of which, written in May, he said he hoped to be in Cincinnati about the 10th of June. He afterward wrote, and said his health would not permit his coming. Again in June he wrote, which was the last communication we received from him.

AUTOPSY.

Autopsy made on the body of Dr. Robert R. McIlvaine, of New York City, aged about seventy years, native of Pennsylvania, July 29, 1881, at 4½ o'clock P. M., eighteen hours after death, by Dr. Ed. C. Harwood, in the presence of Drs. S. S. Purple, E. H. M. Sell, John Messenger, S. T. Hubbard and J. T. Nagle.

Condition of body—Rigor mortis well marked; body poorly nourished; emaciation great; abdomen receded; face and skin of yellowish hue; resonance well marked over both lungs.

On section found old pleuratic adhesion of entire surface of right lung—both lungs healthy.

Liver adhered to stomach; between adhesions there was an abscess which, on breaking the adhesions, discharged about one ounce of thick pus; on section the liver was found to be healthy; the gall-bladder thoroughly distended with bile of normal appearance. Colon was adherent to stomach. Both orifices of the stomach were tied, and the organ removed, which on section was found to contain half a pint of brown, thick liquid, with offensive odor; one-third of stomach was filled with a tumor of cancerous nature; mucous membrane thickened, reddened and congested.

Spleen atrophied.

Heart, kidneys and other organs healthy.

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ORIGINAL CONTRIBUTIONS.

Oinology.

(Discourse upon Wine.)

*A Scientific Subject Popularized—Effects of Oinopotic
Dissipation—Different Effects of Different Liq-
uors—Indians Not Able to Bear Whisky
and Why—Ratio of Mortality from
Different Kinds of Liquors.*

BY S. E. M'KINLEY, A. M., M. D., CHICAGO, ILL.

ANY investigations conducted with a view of shedding additional light upon the science of life and its various phenomena, can arrive at no more satisfactory conclusions than those now held, until a more definite knowledge is obtained regarding the part performed on the body by oxygen, as it concerns nutrition and its handmaid, waste. Constant familiarity with the same makes us careless of the vast magnitude and gorgeous splendor of that orb. A life-long intimacy with our own names renders us careless to inquire the circumstances or occasions which imparted them. So, too, of the oxygen we breathe, and without which there could be no life, no light, no fire, no water, no bread, no animals of the earth, or of the sea, or fowls of the air, nor would there be any world. And if oxygen confined itself to the function of the lungs only in animate creation, what would drive our machinery? There would be no steamboats or locomotives, evidently; nor is it likely that the telegraph would work satisfactorily, if we had such an invention. Its influence over the human

body is that which concerns the student of medicine most, and until he arrives at a more definite insight to the part oxygen plays in the processes of nutrition and molecular waste, and how, also, therapeutic agents impress or influence them, his duties as a healer will be clogged by the mazes of conjecture and uncertainty. We can not jump at a single bound to the point we desire to reach in this connection. We must go slowly and carefully, but surely, through the intricate niceties of scientific inquiry to reach it.

The writer, being a student in this direction, will here illustrate the effects of alcoholics. He will lead the reader to the examples of the highest stages of nutrition, and the perfection of animal development. He will show how this is attained through the oxydizing phenomena in its unrestrained freedom, and in contradistinction to this will show the lowest stages of nutrition and imperfection of animal development, as resulting from the abridgement of the oxydizing phenomena.

The highest example of alterative influence over the human body, beyond all comparison, is orchiotomy. This is inferentially true in the absence of repeated illustrations, which establish it as a fact. Comparison is the fulcrum to the mind, and without it could make no progress in reasoning; there could be no reasoning, for we can only reason from it as a basis on which the mind is to take its leverage.

While man is the illustrious example of his CREATOR'S chiefest, highest, best creation, it does not follow that he bears no resemblance in his physical and mental conformation to the dog, and the ass, and the ox.

The first glimmering ray of light that beamed upon the human mind to lead it to a scientific insight to man's physical structure was gleamed from the dissection of animals. While this may seem humiliating to our vaunted dignity, it in no manner violates, but, on the contrary, elevates it from the assurance it conveys of our superiority to things below us, forming mere comparisons to us. This operation upon animals changes the quality, and develops a higher and more prolonged nutrition. The pig or other animal, unfit for food in his *entire* condition, has the quality of nutrition changed by orchiotomy, and is thus rendered fit for the larder. The cat becomes fat, lazy and worthless, so also the dog; the fowl increases to

double his normal weight and size; the calf outstrips ^{his} *entire* mate in a growth and proportion that continue far beyond the years which limit the full maturity of the latter; the horse loses his effrontery, becomes docile, safe and useful, while his development is increased without loss of symmetry, agility, strength or endurance. Geldings have made the longest races on the turf in running, and the quickest time in pacing or trotting on the course.

These remarkable and desirable alterations are effected through increased and prolonged nutrition, and man forms no exception to animals when subjected to the operation which occasions them.

Ecclesiastical orchiotomy has this influence to a remarkable degree also, as illustrated in the clergy of churches whose tenets require celibacy in their ministry. They eat and drink temperately, labor hard in cold or warm weather, and rise in winter to celebrate mass by, and frequently before, daylight, in cold chapels; aided by this temperance and the austerity of their lives, but one in seven hundred violates his chastity when overwhelming temptation assails him. They are uniformly healthy, and a sick priest or an ill nun is a rare sight indeed. But this does not hold good in a married priesthood. These are significant truths, and excite a reflection which runs far back to the past, then wheeling round sweeps forward, passing the present into the distant future, gathering on its way the evidences it has gleaned.

Next to orchiotomy as an alterative stands oinopotic* dissipation. It revolutionizes its votaries. The moderately sane man is transformed into a crazy one—moderate, we say, because it is a dubious sanity that yields itself to the influence of alcoholic drinks. It is the example of the most extraordinary alteration to which mankind are amenable, except the loss of the appendages which indicate the quality of sex. Both are achieved through their influence over nutrition and oxidation. The latter, by increased constructive metamorphoses and a correlative waste; the former, by diminishing destructive metamorphoses of tissue, and thus abridging the construction of tissue in diminishing the oxydizing processes.

Orchiotomy leads to an increased size of all the organs

*From the Greek word *oinos*—wine, and the Latinized Greek word *poto*—to drink.

concerned in the digestive and nutritive processes. The lungs, which form the port of entry for the oxygen that drives forward the growth, and then forming new compounds liberates them as debris, are greatly augmented: thus affording a *pro rata* increase in the volume of oxygen. The heart, arteries, veins, liver, spleen, intestines, fat, muscles, bones, and, not least of all, the compass of voice, are increased. To secure the latter, orchiotomy has been practiced in the East from the earliest ages. The whole respiratory system is changed from the increased dimensions gained in this operation; and if the animal be a Flemish horse, such as may be seen in the brewery wagons of London, or the drays of Liverpool, a huge and useful animal is developed, a very giant of strength, from eighteen to twenty-two hands high, from a medium sized sire and dam.

As the example of the highest perfection of nutrition and physical development is found as the result of orchiotomy, and proceeding from the primary influence it induces, viz.: an augmented respiratory function, as before stated, so on the contrary, the greatest imperfection of nutrition is derivable from oinopotic dissipation by inducing the very opposite state of affairs, viz.: abridging the respiratory function, and its ulterior retardation of molecular waste from the body. Diminishing the play of the lungs, the oxydizing processes are curtailed, and the new compounds formed by the oxygen are retained, thus affording a *pro rata decrease* in the volume of oxygen. Here, then, the heart, arteries, veins, liver, spleen, intestines, fat, muscles, bones, and, not least of all, the compass of the voice are diminished in size. The whole system of nutrition is comparatively, and to some extent absolutely, and, therefore, hopelessly, broken down. Structural changes are apparent throughout, and as this applies to the brain also, the victim of oinopotic dissipation is demoralized in proportion to the degree of injury the brain has sustained in the overwhelming wreck, once the example of a ceremonious propriety, and the support of a prosperous business, and the adorning light of his circle of acquaintance, when in the first stage of habitual inebriation, he is now a trembling column of regret to himself and all who knew him in earlier days. All dignity, all sense of propriety is now lost. Unfitted longer to conduct his once prosperous affairs, they too, like himself, have fallen into decay. He

stalks abroad idly in midday, revels in the noisy throngs of early evening, and prolongs his unhallowed orgies until the noontide hours of night, and often until the shrill notes of the early newsboy pipes forth the existence of the new-born day. Then he hies in oscillating gait to his home (?) and, undenuded of coat, boots or hat, hibernates beneath the bedding in sigmoid flexions till night, when he again sallies forth. Night with him is day, and day is night. He is an *oinomaniac*. Alcohol is his only cry, and it is unceasing. This mania mows down with its broad scythe more men than pestilences or famines; it swallows up more men than shipwrecks or earthquakes; it is an insatiable gulf. Whisky, brandy, rum, gin! what a fearful catalogue of ills these names suggest. Arson, theft, murder, rape, suicide! poverty, penury, disgrace, prison! grief, tears, treachery, blighted hopes, infanticide! adultery, illicit elopements, abortion, divorce! Hell on earth, and hell beyond! (Orthodoxy.) But talking does no good. Parental admonition is useless. The tears of wives, mothers, sisters and brothers are shed without effect. The sweetheart's affectionate remonstrance is alike unavailing, for when once the victim gets into the mazy pool of indispensable inebriation, in nineteen cases out of twenty he remains in it until swallowed up. The habitual inebriate in the advanced stage which this monograph contemplates is an abnormal phenomenon; he exhales a gaseous, and drinks a liquid fire. He sees globular scintillations in incalculable thousands passing in review before his heated brain. He hears unearthly sounds careering in wild and frenzied jubilee amid the distorted beings his diseased imagination has summoned forth. He smells imaginary odors, which he attempts to describe in the language of indecorous epithet. His urine is scalding hot, and of a high specific gravity, and his alvine evacuations emit a feter unrivaled by the stench of a chloatic vault being emptied at midnight. He is a walking and migratory, and certainly a very gyratory monument of combustion. His very existence seems to be a libel upon the laws which govern the principles of human vitality. He is a living and moving lie to himself, and also to the science which has hitherto attempted to account for his existence under the circumstances. That he should die loaded as he is with compound complications of bodily and mental disease, to which is superadded

every moral deformity recorded in the lexicon of vice, so readily bestowed by a censorious world, and hurled at his devoted head, is not matter of surprise; but to the overwhelming astonishment of the medical scholar he lives! lives to confute his educated views of the principles of human life. That the elements of respiration, and the plastic elements of nutrition should be in just proportion; that no great or prolonged departure from the physiological state is compatible with life, the medical man has been taught. But here he sees this law ignored in the habitual inebriate, where the elements of nutrition are not only withheld for days, but for weeks and months. The organs of digestion idle and diseased; the assimilating process stopped; on what, then, does the inebriate subsist? The only answer that can well be given is, combustion—pent up molecular waste. And is it not correct when we consider that he lives solely on non-azotized food? He may “force an appetite,” it is true, but there seems to be no possible assimilation—no appropriation of the articles eaten. Nitrogenized food is neglected—fat, not lean meat is chosen, if any be eaten at all.

In the habitual inebriate at this stage of his career, the natural order of things is reversed; with him the normal has become the abnormal, and the abnormal has become the normal, both as regards his physical condition and his habits. He not only has no appetite for, but is disgusted with, a rational and physiological admixture of aliments. As in his physical movements, he is ever gyrating from the centripetal to the centrifugal; so, too, is he alike capricious in his choice of food, selecting almost exclusively from the non-azotized, and totally avoiding *proteinaceous* compounds.

If the favorite drink has been malt, then we find *molliès cerebri*, or *romollissement du cerveau* of the French pathologists, and the *apoplexie capillaire* of Cruveilhier, a peculiar congestion pointed out by this very able observer. There is softening of the spinal marrow, and the whole membranous system is to a great extent rendered spongy.

The absorbents are impaired, venous congestion exists to a fearful extent, and dropsy ensues in consequence of this condition. But inebriates from malt liquors are generally carried off from valvular disease of the heart, and

granular degeneration of the kidneys; the latter become softened and hypertrophied.

Malt liquors create the elements of bile in excess, but promoting the eliminating function of the uropoetic organs, the bile is carried away with the urine.

Ardent liquors create a redundancy of bile also, but promoting the hepatic viscus at the same time, it is cast from the system, *via* the intestines; the kidneys being nearly always in a state of congestion from the use of ardent liquors, little bile is eliminated by them.

Malt liquors cause disease of the kidneys from the enormous labor they are constantly taxed with, and granular degeneration of them is due to this and the alcoholic hexis, or oinopotic dyspepsia.

Disease of the kidneys from the intemperate use of ardent liquor is such as proceeds from prolonged congestion.

An alcoholic hexis induced by the *moderate* but *constant* and *prolonged* use of inebriating liquors, leads to confirmed and *indispensable* inebriation, unless the *oinostatic diathesis* which demands the liquor, and from which the appetite for drink both proceeds and is perpetuated, is broken up by an alterative treatment that displaces it.

The long continued use of alcoholic drinks, with the apparent impunity attending it, finds its solution in the vast quantities of chloride of sodium consumed by this class of every community. Salt soups, as had at lunch houses and other oinopotic resorts, accounts for this impunity very largely—salt soup; salt and radish; salt celery; salt sliced turnip; salt-pickled onion; salt-pickled cucumber; salt slaw; salt herring; salt lobster; salt salmon; salt oyster; salt pork; the dissipator in liquor eats both from instinct and intelligently of those things which take, and are not palatable without salt. From the use of these things they escape from much of the danger which attends prolonged dissipation. The salt has effects directly contrary to those of the whisky; the latter diminishes molecular wastes. Salt increases it. The salt, in itself hastening destructive transformation, creates a thirst which water only can wholly allay, and in it is found another resisting force to the whisky. Water increases the oxidizing process, and the thirst created by the salt leads to its consumption in large quantities.

Non-salt-consuming people or nations can not bear the

effects of alcoholic liquors. The Indian becomes crazed at one or two drafts, and a third will prostrate him. No efforts as yet resorted to, can bring the Indian to even the remote confines of the civilization of which we boast, and the non-consumption of salt by him furnishes the key to his incorrigibility to the efforts to tame him to our manners and customs of life.* The Indian at our territorial doorsteps, like all the other Asiatic tribes, consumes no salt; and like them too, is far down in the scale of Christian and political civilization.

The Numidian of Africa feasts upon the primitive products of nature without salt. The nomadic tribes of Asia wander from place to place and feed upon a precarious supply unsavored with salt. The wandering Arab on the sandy desert goes for many days, and often for as many weeks without water, and when he finally reaches it, drinks but sparingly, which could or would not be the case if salt had mingled with his light and simple food. Literal nomads, like the cattle they herd, bathe in, but unlike them, drink none or but little of the streams whose banks they meander. This could not inferentially be so if salt formed a commodity for their consumption. Salt has a domesticating influence over the wild herds of every untamed waste, and contributes more than anything else in bringing them to subjection or usefulness.

The consumption of salt marks every step in the ascending scale of civilization, from the Indian† who consumes none or but little, and who is at the foot, up to the highest civilization and refinement, at the top of the scale, where it is an indispensable commodity.

*When we enter the wild wood to reclaim its denizens, it is with salt and meal in the extended hand of conciliation that secures their approach, and not the yokes and shackles of the plow. I ought to eat the products of domestic culture, they are themselves taught to draw the plow-share. We reach the services of the wild ox through his nutrition. With the Christian code in one hand and the legal code in the other, we approach the untamed Indian. And what have been the fruits of this? Failure in the purposes contemplated. Let him be reached through his nutrition—teach him to dine, and thus teach him Christianity—teach him to dress, and he will learn the laws. As he feels, so is his mind; as he dresses, so are his manners.

Extend the hand freighted with salt and meal, and he will come to "the codes."

† The products of the chase not interred for preservation are suspended in mid air to be desiccated by the sun.

The Esquimaux feasts upon blubber unsavored with salt, and preserves his food in ice and snow to repeat the banquet unmingled with protienaceous aliments.

Like iron as the emblem to mark the steps of artistic progress, and is most in use where civilization is highest, salt is most largely consumed where mental progress is greatest. Those who use it not or but sparingly, like the tribes alluded to, have an imperfect physical and mental development as compared with those who consume it largely.

The castrated ox slakes it in copious quantities and gains vast proportions, while too he is docile and useful. So also the horse. The bull takes it but sparingly, grows slowly, and gains his size early as compared with the former, and is shy and wary of approach.

No period named in history, either written or traditionary, was ignorant of grapes. Inebriating wines were known to mankind contemporaneously with the inception of vineyard husbandry. Noah is said to have drank wine. And an instance of his departure from the rules of patriarchal dignity and propriety from its excessive use, is named in the biblical history. And his son Ham, on this occasion, was as calamitously wanting in filial decorum as the conduct of his brother was discreet and respectful.

Although wine was made use of at the very cradle of the first fathers of mankind, it was for ages confined to the gentry or patriarchs of families. So highly indeed was it esteemed, as to lead to the belief in its being the water intended by the Author of the universe for common use among the "anointed" only. Ordinary people rarely drank it, not from any prohibitory mandate, but from the hereditary belief in its sacredness.

It was the article chosen to symbolize the first miracle performed by the MESSENGER of peace. Marriage had ever been regarded as an august rite, and here its dignity was augmented by His presence when HE chose to illustrate His miraculous power by rising above the organic law of nature in yielding wine, and procuring it from water. Pagans, while capable of every vice known to gratify the feelings of depravity, can not be said to have been excessive drinkers. They dealt in stupendous wrongs, but sottishness was not included among them. This is remarkable indeed, as it makes them exceptions to their neighbors, who, while better in many respects, were not so in this.

But with Christianity came a purer civilization, and with it came the vast train of wants which culture suggests,

and the vice of excessive drinking numbered among them. Ever used with a degree of moderation before Christianity, its excess has been cotemporaneous with the march of Christian civilization and politeness.

The intemperate use of vinous liquors is the great, and all-absorbing, and overwhelming vice of the present age. In the midst of the luminous blaze of Christianity, the basis of the only *true* civilization that can exist to dignify mankind, it stalks abroad in midday and revels in the gay and refined throngs of evening.

Ratio of mortality from oinopotic dissipation.

| | | |
|--|----|--------|
| Habitual inebriation from whisky stills in | 4½ | years. |
| Brandy, | 3½ | " |
| Gin, | 5 | " |
| Wine, (simple,) | 6½ | " |
| English and Scotch malt liquors in | 7½ | " |
| Lager or German beer in | 9 | " |

Malt liquors do not retard molecular waste to so great an extent as the more ardent ones, and thus require a longer period to lead to the final dissolution to which they all tend.

Bacteria and Their Relations to Plant Culture.

BY THOMAS TAYLOR, MICROSCOPIST, DEPARTMENT OF AGRICULTURE,
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Read before the Microscopical Section, American Association for the
Advancement of Science, Cincinnati, August 18, 1881.

IF we examine, under a high power of the microscope, a small portion of the scum of a fermenting infusion of vegetable matter, numerous particles of a globular shape will be observed, measuring about one twenty-thousandth of an inch in diameter, uniform in size and shape, highly refractive and frequently found in gelatinous masses. These are known as micrococci, or spherical bacteria. Associated with them is generally found another description of germs of the same diameter, but of a rod-like shape, jointed and of various lengths. In common vegetable fermenting infusions they are seldom observed over .003 of an inch in length, and are frequently under .001 of an inch. They have generally an active motion, as seen under a high power (as have also the micrococci), and are known as rod-bacteria (from bacterion, a staff). Botanists

of the present day assign both of these organisms to the division algae.

Many investigators believe that certain species of these organisms produce contagious fevers, but there certainly are other species which perform a most useful part in the economy of nature, and in many of our valued industries their active co-operation is absolutely necessary. It is well known that they are the chief agents of fermentation and putrefaction, and it is to the decomposing power they thus exert, in conjunction with the action of the elements, that all organic bodies decay and restore to the earth soluble fertilizing salts, instead of the insoluble and therefore unavailable material of which, in their unchanged state, they are made up. There is high authority for stating that organic substances are not inherently unstable. Under suitable conditions they may remain for an indefinite period wholly unaltered. It is well known that in some portions of the earth the carcasses of dead animals tend to dry up and become mummified. In the arctic region the remains of animals imbedded in ice are kept in perfect preservation for centuries. It is only under conditions more or less favorable to the existence and multiplication of the small organisms which produce fermentation and putrefaction that rapid decay takes place.

Without bacterian fermentation the compost heap of the farmer would remain valueless as plant food. The stubble and the dead grasses of our fields, and the fallen leaves, twigs, branches and trunks of trees would remain comparatively unchanged but for the chemical action excited by the same agency. Fish guano, and all unfermented organic fertilizers, must undergo bacterian fermentation or putrefaction after their application to the soil, or they will remain in a stable form, and their ammonia, locked up in the tissues of which it forms a component part, will fail to yield its return of profit to the farmer. It is asserted that the great nitre beds of India owe their origin to the action of microscopic germs, and the production of nitrate of lime by artificial means presents a similar instance of the results of bacterian action. In this last-named operation animal and vegetable matter combined with lime is laid out in great beds and left for a period of two years, or until fermentation and putrefaction, coupled with the action of the air, have produced

nitric acid, when nitrate of lime is formed, to be subsequently converted into nitrate of potash.

Some of the most beautiful colors used in dyeing are produced by subjecting lichens to bacterian fermentation, and the fermentation of stable refuse yields an even heat, which is extensively utilized in the manufacture of white carbonate of lead, as well as in the cultivation of mushrooms and of various early vegetables. The value of the edible fungi thus produced alone amounts in Europe, Asia and America to millions of dollars per annum. The utilization of bacteria and similar organisms in the operations of baking and brewing, and the production of wine and vinegar, is familiar to every household.

While bacterian fermentation or putrefaction is an essential part of the process which fits dead organic matter to become food for plants, the former appears to be an incidental source of one of the common practical difficulties encountered by the farmer and horticulturist, viz.: the tendency of soils to become sour. Some of the lower forms of fungi are denominated "acid formers," and the mode in which these act will, I think, illustrate the process by which sourness of soil is brought about. If we dissolve a little sugar in water, add a small quantity of yeast fungus, and subject the solution to a suitable temperature, fermentation ensues—the sugar is converted into alcohol and carbonic acid, and in process of time the alcohol is oxidized, becoming acetic acid. As the result of some late observations, I am convinced that a similar change often takes place during the progress of those fermentations of which bacteria are the agents, and that these organisms, though in a less distinctive sense, might also be called "acid formers." So far as my observation extends, solutions in which bacterian ferments are in active progress invariably become acidulated, and I have also found that soils in which bacteria and micrococci are revealed by microscopic examination—and I find them in all soils of average fertility—give perceptible acid reactions when tested by litmus paper.

That acidity is so often produced in excessive quantities may be due in part to the character of the unmarketable substances left upon the land in the operations of agriculture, such as the stalks of corn, the stubble of the smaller cereals, decayed grasses, the fallen leaves and twigs of fruit trees, and the roots of field and garden

plants in general. In all of these there is a preponderance of cellulose, which substance is resolvable successively into starch, dextrine and glucose, and from this last, as from the solution of sugar in the experiment above referred to, is ultimately produced acetic acid.

The neutralization of the excess of acid in the soil is not the least of the ends subserved by the use of lime and other alkalies in agriculture; but another means which contributes to keep its quantity within wholesome limits is thorough drainage. If the soil of potted plants be not watered with sufficient frequency and copiousness it soon becomes sour, and gardeners have learned by experience to leave at the top of each flower-pot a water space of two inches, more or less, depending on the size of the pot. By filling this space with water as often as necessary the soil is kept sufficiently free from organic acids, which are washed out through the aperture below; and this is precisely similar to what takes place in any well-drained field.

I have already referred to the opinion that certain species of bacteria produce contagious fevers; but from what has been said above, it will be sufficiently apparent that this is by no means the chief function of this class of organisms. However great their baneful activity at times may be, their services to man and to organized existence in general are infinitely greater. Moreover, the former is but occasional and sporadic, while the latter is practically constant and universal. If the materials once used by the life principle in building up organic bodies could not be used over and over again for the same purpose, life must soon cease through the exhaustion of all that is capable of sustaining it. It is in that which has lived, but lives no longer, that life finds the greater part of its sustenance; but, as we have already seen, that vegetable life upon which all animal life ultimately depends can not use this sustenance in the form in which life left it. Before organic matter is available as plant food, it must be reduced almost to its primitive elements; and, as has been pointed out, its reduction is mainly effected through those processes of fermentation and putrefaction, in which bacteria appear to be the most active and important agents. Thus we find among those simple forms of life, which are supposed to have been the first to make their appearance on our planet, and to which, if we ac-

cept the theory of evolution, even the most complex of existing organisms owe their origin—an agent which, from the very inception of life upon the earth, has continuously performed a function without which the successive generations of plants and animals could not have existed; and stupendous as is its work, it is an agent so minute that twenty million individuals of its class might be inclosed within a globe small enough to pass through the eye of a cambric needle.

SELECTIONS.

Some Diseases of the Newly-Born.

BY WM. T. PLANT M. D.

Professor of Diseases of Children in Syracuse University, Syracuse, N. Y.

UMBILICAL HEMORRHAGE.

Gentlemen: Besides umbilical inflammation in the young infant, of which we spoke the other day, another danger is sometimes encountered at the same point—viz. hemorrhage. I do not mean the bleeding that may take place from the end of the stump soon after the cord has been tied; that is a preventable accident which need never occur to you if you remember your instruction upon this point; but the hemorrhage of which we speak now is independent of the ligature, and usually occurs at the point where the stump separates from the body. Statistics show that in a large proportion of cases the hemorrhage occurs between the fourth and fifteenth days; that is, between the beginning of ulceration and complete cicatrization at the navel. In a few instances only has it begun directly after birth.

I shall now consider the causes of this hemorrhage. Ordinarily, after the cord is tied, the umbilical vessels become securely plugged by firm coagula. Whatever interferes with this process, by lessening the coagulability of the blood, favors hemorrhage. Foremost among the causes we may reckon a hemorrhagic diathesis, an inherent tendency of the blood peculiar to the individual to remain fluid under circumstances which usually promote coagulation. So strong is this disposition to hemorrhage in

some families that many times more than one child of the same parents has perished from this cause. Authors say that if a little of the blood is collected as it oozes from the navel, it will be found to resist coagulation for a long time, and that the clot when formed is without firmness or cohesion.

Certain diseases affect the blood in the same way. Syphilis notably does it. There would seem also to be some obscure connection between umbilical hemorrhage and derangement of the biliary function, for in more than half the cases jaundice is coincident with the bleeding and often precedes it.

Umbilical inflammation may also lead to hemorrhage through ulcerative or gangrenous destruction of tissue.

Symptoms and Course.—Unexpected bleeding, especially in an infant, is alarming. You are summoned then in some haste, and the nurse points you to a blood-stain on the child's clothing. The band being removed and the part cleansed, you may see the blood oozing from the umbilicus. It is not a rapid flow, and it would seem an easy matter to stanch it. Naturally astringents occur to you, and you apply some lint soaked in a solution of persulphate of iron, say one part to six or eight. Over this you lay a compress, and instruct the nurse to keep it in place by a well-applied binder. You then repair to your dwelling happy in the consciousness that you have saved a life.

For an hour, or perhaps for a day or two, your self-gratulation receives no check; but you are nearly certain to be summoned again, to find the blood escaping beneath and around the dressing you have applied. You determine upon another styptic, and select tannin or alum, but with no better result. So other astringents and combinations of astringents are tried, with firm pressure by compress and bandage, often indeed to no purpose, for success with these agents is the exception rather than the rule.

By this time the infant is plainly suffering from loss of blood. It is pale, if not jaundiced; its cry has dwindled to a plaintive whimper; it is almost too weak to nurse. Perhaps a crop of petechiæ scattered over the body show how strong is the disposition to hemorrhage.

Having failed with styptics, you concluded to resort to the ligature. The pedicle being too short to hold the cord, you transfix the integuments crosswise with two needles,

and twist the string around them after the form of the figure 8. This done you again feel, if you are without previous experience in this matter, that you are master of the situation; but you are uncommonly fortunate if you do not find within a few hours that the leakage continues in spite of the ligature, even escaping, it may be, from the orifices that the needles have made.

So after efforts oft-repeated, and failures no less often, the infant probably dies, perhaps in one day, perhaps in two or three weeks, the average duration being three to four days. Remember, however, that while the prognosis is in the main unfavorable, a certain small proportion of cases do yield to the above measures.

Fortunately this hemorrhage is a very rare accident. Vogel states that it occurs to but one baby in ten thousand. I happen to have met with two instances, both of which were fatal after a few days.

A case has been reported by Thomas Hill, and is referred to in several works upon children, in which a cure was effected by filling the umbilical depression with liquid plaster of Paris. The fissures that formed as the plaster set were filled with the liquid until the navel was covered with an impervious coating. This is a painless application and easily made. If I should encounter another case I would adopt this method at once, hoping for better success than has usually attended the employment of styptics and transfixion.

I had almost forgotten to say that when jaundice is a prominent symptom, especially when it has preceded the bleeding, I should have some faith in the administration of a cholagogue, such as hydrargyrum cum creta or the mild chloride of mercury.

On Milk-Indigestion in Young Children.

BY EUSTACE SMITH, M. D., F. R. C. P.

THE following timely article we extract from the *British Medical Journal*. It will repay careful perusal:

Children who are brought up in the usual way, upon milk and milky foods, may suddenly begin to exhibit symptoms of indigestion which renders an immediate change in their diet indispensable, if serious consequences

are to be avoided. In hand-fed babies this unfortunate accident is common enough, and the mortality among such infants may be, in a great measure, attributed to it. The same thing may occur, however, in children who have been weaned at the usual age; and it is, therefore, sometimes met with in young children twelve or eighteen months old.

These symptoms are due, in the majority of cases, to an inability to digest cow's milk. Usually, the inability is merely a temporary infirmity, arising from some casual derangement of the stomach and bowels, which induces an acid change in the food. In such cases, milk quickly undergoes fermentation in the child's stomach, and an acid is formed which irritates the delicate mucous membrane, and increases the disturbance of the digestive organs. Severe symptoms are often the consequence of this indigestion; so that, unless prompt measures be taken to avert the danger, the child's life may be sacrificed. In other, and less common cases, the fault is in the milk, which is too heavy for a child whose digestive organs are sound and healthy. Thus, infants who are weaned when very young often find cow's milk to be beyond their powers of digestion; and, unless special precautions be taken to adapt it to their immature organs, serious consequences may ensue. Other causes may make cow's milk appear to be indigestible. Thus, the child may be actually overfed, its meals being too large, or too frequently repeated; or, again, the feeding-apparatus may have been neglected, so that fresh milk put into a dirty, sour bottle, may have begun to ferment before the child swallows it. These causes may, however, be put on one side. The kind of milk-indigestion now spoken of is that in which, for whatever reason, a perfectly pure, fresh milk, given in suitable quantities, and with all possible precautions to make it digestible, is found to disagree. In such cases the child begins very quickly to waste, and to show all the signs of defective nutrition. The general symptoms may be divided into three classes, according as to whether the prominent feature is constipation, vomiting, or diarrhœa.

Cases where *constipation* is a marked symptom are generally found among young infants. The child is restless, and begins to be feverish at night. His tongue is coated with a thick, white fur. He is evidently in a state of great discomfort; for his temper is peevish and fretful, his

movements are uneasy and jerking, and he occasionally breaks out into piercing cries, drawing up his knees and twisting about his body, under the influence of abdominal pain. At night the griping is especially violent; the child scarcely sleeps at all; or, if he be quiet a moment in uneasy sleep, he soon starts up again, screaming with a fresh attack of pain. The motions are scanty and rare. The bowels sometimes remain confined for twenty-four hours, or longer; and, when they are at last relieved, hard, clay-colored balls, stained with green mucus, are expelled with great effort and straining. These balls consist of masses of hard curd.

A full dose of castor-oil, which clears away the curd, allays the symptoms for a time; but usually, if the milk-diet be continued without any change, they return in a day or two, and the child is in the same distress as before. Violent convulsions may be induced by this cause, and the child's life be put in actual peril.

It is usually in cases of artificial feeding that these symptoms are found; but sometimes, although rarely, we see them in children who are nursed at the breast. When the indigestion is due to catarrh of the stomach, it is readily amenable to treatment. All that is necessary, is to put a stop to the milk for a day or two, and to clear away undigested curd by a full dose of castor-oil. If, however, the fault be in the milk, and not in the digestive organs of the child, some change in the method of feeding is indispensable.

A curious instance of this difficulty in digesting curd in a child, fed solely by the breast, came under my notice some time ago. I was asked by a gentleman to go and see his child, a little boy of seven months old. I found that the child had been suffering for some weeks from severe abdominal pains. He was excessively peevish and fretful, and at night would wake up with a scream, and twist about his body, evidently under the influence of severe griping pain. His bowels were very confined, and the motions consisted almost entirely of curd. He was taking nothing but the breast. Aperients had been found to relieve the child for a time, but the symptoms always returned when the effect of the purgative had passed away. Whenever the breast was stopped for a few days, he immediately improved, but relapsed as soon as suckling was resumed. The child was evidently suffering

from his inability to digest the curd of his mother's milk; and it became a matter of the greatest importance to enable him to do so, otherwise he would have to be weaned and fed in a different way. The mother had herself, by taking saline and other medicines, and by making many modifications in her diet, under medical advice, endeavored to alter the quality of her milk, but without success. Several methods of remedying the evil were tried. The intervals between the times of suckling were increased, so as to give a longer period for digestion; but this change had no effect whatever. Alternate meals of barley-water were then given from a feeding-bottle. By this means the quantity of milk taken by the child in the course of the day was diminished, and the interval between the times of taking the breast was still further increased. No improvement, however, followed the alteration. The griping pains still continued; and the constant fretfulness of the child was most distressing to his mother. The plan was at last adopted of giving the child barley-water, from a bottle, immediately before he took the breast, in the hope that, by this means, the milk might be diluted directly it reached the stomach. This method succeeded perfectly, and the child had no further unpleasant symptoms. In this instance, the infant's stomach was in a perfectly healthy state. The fault lay in the mother's milk, which was too heavy for the child's powers of digestion. Should this happen in the case of a wet-nurse, the nurse must be changed, or the child be weaned and brought up by hand.

In the large majority of cases of milk-indigestion in infants reared at the breast, the fault is in the digestive organs of the child; an attack of gastric catarrh having rendered him for the time incapable of digesting his mother's milk. In these cases the indigestion is a temporary failing, and it is easily remedied by suitable treatment. Without judicious management the derangement may be prolonged indefinitely; and it not unfrequently happens that the mother is ordered to wean her baby, under the mistaken notion that her milk is unfit for its support.

In cases of gastric catarrh, where the complaint is acute and severe, *vomiting* is usually the most prominent symptom. Under such circumstances milk becomes a positive poison; and no hope of alleviating the symptoms

can be entertained while this diet is persisted with. A short time ago I was asked to see an infant two months old, whom I found suffering from acute gastric catarrh, and in a state of great exhaustion. She had been brought up by hand, and was being fed upon milk and barley-water in equal proportions. This she vomited as soon as it had been swallowed, bringing it up curdled and intensely acid. There was a sour smell from the breath, and, although the disease had only lasted a few days, the eyes were hollow, the face looked pinched, the fontanelle was deeply depressed, and she lay motionless on the nurse's lap, with her eyes half closed. Her hands and feet were cold to the touch, and looked purple. For a day or two her bowels had been much relaxed. She was taking small doses of lead and opium to check the diarrhoea, but each dose was returned almost immediately. The child was ordered to be kept warm and perfectly quiet. A weak mustard-poultice was applied for an hour to the epigastrium. The milk was stopped, and the child was fed with weak veal-broth and thin barley-water, mixed together in equal proportions, and given cold, at intervals, with a teaspoon. A few drops of brandy were given occasionally, as seemed desirable. As a result of this treatment, the vomiting stopped at once, and the child, when seen three days afterward, was found to be much improved. The breath had lost its sour smell, the face was no longer pinched, the eyes were not hollow, the fontanelle was not depressed, and, when asleep, the child closed her eyelids. The motions were still rather watery, although the number was natural. The medicine and diet were continued a few days longer, and the child was soon well. The most important part of the treatment, in this case, was the substitution of veal-broth for milk. Directly the supply of fermentable matter was stopped, fermentation ceased, acid was no longer formed, and the digestive organs returned to a healthy condition. Here the derangement was acute. In the following case the complaint was chronic, the inability to digest cow's milk having extended over a lengthened period.

A little girl, ten months old, with four teeth, very thin and weakly-looking, had been weaned at the age of eight months. Since that time she had been unable to digest milk, vomiting it at once whenever it was given to her. For nearly two months, therefore, she had been fed on two

dessertspoonfuls of farinaceous food, made with water into a thick cream, and given every two hours with a spoon. She refused to take it from a bottle. Twice a day the food was made with beef-tea, instead of with water. After a meal the child often vomited, but, when this happened, she was immediately fed again. The result of such a diet was to be expected. The child, although ten months old, was exceedingly weak, and could not sit up. She was rapidly becoming thinner. She slept very little, whining and crying the greater part of the night. She was said to show no signs of abdominal pain; but the bowels acted three times a day, and the motions were relaxed, and horribly offensive. The feet were almost always cold.

Gastric and intestinal disorders in children often date from the time of weaning; partly because at this time they are apt to be largely overfed with farinaceous foods (and it may be remarked that the phrase "food for infants," with which many farinaceous powders are labeled, has been the cause of widespread mortality); partly because the change from human to cow's milk is often made abruptly, and with little care to make the new diet a digestible one. The heavy curd of cow's milk is often difficult of digestion, even by children ten or twelve months old, who have been accustomed only to the breast; and, unless measures be adopted to hinder the firm clotting of the casein, serious dangers may arise. Whatever may have been the cause of the disturbance in the case above narrated, a catarrh of the stomach had been set up, which made the child incapable of digesting cow's milk; and the diet, adopted as a substitute, was one admirably devised for keeping up the derangement. Such a case, which is far from being an uncommon one, is readily treated, however severe may be the vomiting, by restricting the diet to equal parts of weak veal-broth and thin barley-water, given cold in small quantities at a time, by warmth to the belly and extremities, by perfect quiet, and by suitable remedies. The best sedative is liquor arsenicalis—half a drop for the dose—given with a few grains of bicarbonate of soda in some aromatic water. After a few days of such treatment the power of digesting milk usually returns. But at first it should be given sparingly, freely diluted with barley-water, and only once or twice in the day.

Looseness of the bowels is a common consequence of milk-indigestion. The stools are not at first watery; for a time the motions are semi-solid, and have the color and consistence of soft putty. They may have a faint, sour, unpleasant smell, but are not necessarily very offensive. Occasionally, the stools are streaked with green mucus, and sometimes with blood, on account of the straining exercised during their expulsion. This condition of the bowels is accompanied by gradual loss of flesh. The child becomes at first flabby, then obviously wasted. If proper treatment be not resorted to the case becomes one of obstinate, chronic diarrhœa, or else the child, in its weakly state, falls an easy victim to some intercurrent disease.

Such cases, in the early stage—before a regular diarrhœa is established—are often spoken of as cases of “inactive liver,” the white stools being supposed to be merely the result of insufficient biliary secretion. Cholagogues are, however, in such cases quite useless. A dose of gray powder produces, perhaps, one dark stool, but afterward the motions are of the same character as before. They are white because they consist of curd mixed with farinaceous matter, which is usually given in large quantities at the same time; and their character can only be improved by a complete change of diet. When a chronic diarrhœa is regularly established, the cases are often called “consumption of the bowels.” It is needless to say that they have no relation at all to “consumption,” but are a purely functional derangement—a chronic catarrh of the bowels, excited and maintained by undigested food. The *post-mortem* appearances, except for the wasting of all the tissues, differ very little from those of health; but, in long-standing cases, we may find ulceration of the bowels. There is, however, no sign of gray tubercle.

Some years ago I saw, in the country, a little girl, aged fourteen months, who had been losing flesh gradually for two months. Her friends were in a state of great anxiety about her, as her father had died of consumption. The disease had begun with feverish symptoms and relaxed bowels, and the motions had never since been healthy. During the greater part of her illness, she had been fed with milk and sago—the latter in large quantities; but, for a fortnight before my visit, she had taken nothing but pure milk, fresh from the cow. This change in diet had,

however, produced no alteration in the symptoms. I found the child very flabby and pale, although, to the eye, not very thin. Her face, when quiet, was placid-looking. She perspired freely about the head and neck. Her fontanelle was of medium size, and not depressed. She had no teeth, and the gums were not at all full. The tongue was rather dry and drab-colored, with a little fur at the back. The abdomen was soft and rather full—not at all tender. The liver and spleen were of natural size, and no enlarged mesenteric glands could be felt. The child had not yet begun to walk when her illness began. Her joints were inclined to be large. The skin generally was harsh, but there was no loss of elasticity. Temperature in rectum, 98° . She had a cough, and a little dry and coarse bubbling rhonchus was heard about the back. The bowels were open four times a day. The motions were large, and of the color of putty and consistence of soft paste, without offensive smell. The child appeared to have no pain, and, although rather fretful, was not very troublesome.

In this case there was evidently a certain amount of rickets present, shown by the profuse sweating of the head; the tendency to enlargement of the joints; the absence of teeth (at fourteen months); and the weakness of the lower extremities. The temperature, which was only 98° in the rectum (at about 3 o'clock P. M.), was almost sufficient, by itself, to exclude the notion of tuberculosis; but, besides this, the absence of any pinched look in the face, and the elasticity of the skin—for, in tuberculosis, the loss of elasticity of the skin is a marked symptom—enabled me to allay the chief anxiety of the mother. The case was evidently one of the class I am describing. The child, owing to little intestinal catarrh, had a very limited power of digesting milk. The treatment was, therefore, obvious. Milk was almost entirely excluded from the diet, and the child was fed, instead, with whey and cream, veal-broth and barley-water, yolk of egg and "Mellin's food," dissolved in barley-water. She took, at first, an alkaline solution of iron, with half a drop of liquor arsenicalis in each dose. This was afterward changed to quinine, dissolved in iron wine and cod-liver oil; and it was not long before the child was convalescent.

In all cases of functional derangement in children the

tendency is to recovery, if nature be allowed her way. This is especially true of derangements affecting the alimentary canal. If the irritant, whatever it may be, which is the cause of the disturbance, be removed, the organs quickly resume the normal exercise of their functions. Unfortunately, well-meant efforts to relieve the distress are often themselves the cause of its continuance. The child is weakly and wasting, therefore he requires nourishment; but the utmost care must be exercised in selecting the kind of food to be given. To continue the supply of fermentable material, when the stomach and bowels are already filled with the products of fermentation, is a certain way of hindering the child's restoration to health. If, on the contrary, we cut off the supply of fermentable matter, unless the strength be too much reduced, recovery follows, as a natural consequence. In such cases milk and the ordinary farinaceous foods must, for a time, be withdrawn from the diet. The best substitutes are those which have been mentioned, namely: weak veal-broth and barley-water, in equal proportions; cream and whey, a dessertspoonful to four ounces; yolk of egg (beaten up, in the case of infants, with whey or veal-broth); and "Mellin's food" for infants, dissolved in barley-water, or in equal parts of this and whey. Veal-broth or chicken-broth is better than beef-tea, for the latter is often irritating to the digestive organs of young children, especially if there be any diarrhoea.

Sometimes, when cow's milk can not be digested, ass' or goat's milk is more successful; and, sometimes, a child, much reduced by digestive disturbance, dependent upon an unsuitable dietary, at once recovers when put again to the breast. More often, however, milk of any kind seems to act as an irritant poison, and no hope of relief can be entertained until it is excluded from the diet.

Surprising Surgery.

THOSE who are interested in the advance of operative surgery will not fail to be struck by some of the recommendations of the German surgeons. During the proceedings of a congress held in April last, Dr. Zeller, of Berlin, suggested that as a prophylactic measure in operations about the mouth and throat, the trachea should be

divided about the third and fourth rings. The lower end should be fastened at one corner of the tranverse incision in the skin, the upper end at the other corner, so that the discharges from the operation-wound may be prevented from obtaining access to the lungs. After the operation the two ends of the divided trachea may be brought together again. That this operation would be attended with danger to the patient, probably few persons would be prepared to deny—perhaps with a danger as great, or greater, than that it is intended to guard against, and we must congratulate Dr. Zeller's dogs on having so well recovered from it. But in ingenuity of suggestion and in boldness of performance, this operation of Dr. Zeller's can not compare with that of Dr. Gluck (Berlin), for this gentleman hopes that, sooner or later, the complete removal of the bladder and prostate—which he has carried out successfully on dogs—may be introduced into surgery. It may, says Dr. Gluck, be performed on men without opening the peritoneum, and the ureters should be fastened to the wound of the abdominal wall; for in dogs the sewing of them into the rectum has not been well borne, and the attachment of them to the cut urethra can scarcely be recommended. We fear that not many surgeons will care to perform it, and not many patients will care to submit to it, when the most favorable result which can be hoped for, has been explained to them.—*Beilage zum Centralblatt für Chirurgie*, 1881.

A Triumph of Modern Surgery.

At a recent meeting of the Royal Society in London, Dr. MacEwen gave a detailed account of a very remarkable case of the transplantation of bone in the human subject. It is of special interest as being the first instance in which this osseous transfer has been successfully effected. We take the following abstract of Dr. MacEwen's paper from one of our English exchanges:

In 1878 a child of three years was admitted into the Glasgow Infirmary for necrosis of the right humerus, the shaft of which was already separated from its head at the epiphysial junction. Fifteen months after the necrosed portion had been removed, there had been no bone formation of any account, and over two-thirds of the shaft

was wanting. A first transplant of bone was then performed. In making the sulcus for the reception of the graft, reliance had to be placed on anatomical relations as to correct position, as there was no trace of periosteum or fibrous structure to indicate the former location of the bone. Portions of human bone were transplanted on three different occasions, the grafts being obtained from patients affected with anterior tibial curves, from whom wedges of bone had to be removed for the purpose of straightening their limbs. These osseous wedges were each divided into many small pieces, which were immediately placed in the sulcus in the boy's arm. These fragments united together as well as adhered to the head of the humerus above and to the condyles below, ultimately forming a solid rod only half an inch shorter than the humerus on the opposite or left side. This transplantation of bone converted a useless arm into a thoroughly useful one. Great stress was laid by the operator upon the subdivision of the transplanted bone into fragments, as thereby greater nourishment is able to be conveyed from the surrounding flesh to the osseous formation. The conclusions arrived at are that transplanted bone is capable of living and growing, and that such transplants are capable of being put to practical uses beneficial to mankind: but that to insure success the transplantation must be conducted antiseptically.—*Boston Journal of Chemistry*.

Baltimore Academy of Medicine—Session of 1880-81.

H. P. C. WILSON, M. D., PRESIDENT.

OOPHORECTOMY.—*Dr. H. P. C. Wilson* reported the removal of both ovaries from a patient *æt.* 40, on account of profuse metrorrhagia dependent on a fibroid tumor situated in the anterior wall of the uterus (intermural). The patient had been bleeding for twelve years, for the last six or seven of which she had been confined to bed. She also suffered from agonizing dysmenorrhœa. She came under treatment last summer, with excessive anæmia, for which she was sent to Atlantic City, where she improved. On her return, Dr. W. introduced a sea-tangle tent, which expanded in a dumb-bell shape, so that all efforts to get it out failed. In these efforts, the string attached to the

tent broke, and also the tent itself on using forceps. Nott's dilator was then introduced, but no dilation of the internal os could be effected, nor could the upper half of the tent be extracted. A larger tent was then used, but this, expanding also in the shape of a dumb-bell, was with the greatest difficulty removed. The broken end of the tent was left in the womb, which was washed out with carbolic acid water. Menstruation returned the next day, and was less in amount than for years. She said that at the close of this menstrual period there was a severe pain, and something passed from her, which she thought was the tent, but Dr. W., who examined all the secretions, did not discover it, and doubted its passage. Oophorectomy was then proposed and accepted. An abdominal incision two and a half inches long was made, through which the left ovary was felt above the brim of the pelvis well over in the iliac fossa. It was enlarged and in a state of cystic degeneration, some of which burst during the operation. Its attachments were transfixed with a carbolized silk ligature, and the ovary cut away without any portion of the Fallopian Tube. The right ovary could not be found until the incision being enlarged to three and a half inches, the whole hand was introduced in search of it, when it was discovered deep in the pelvis, and so bound down that it was with difficulty brought out of the abdominal incision. A double ligature was placed around the ligament of the ovary, embracing also the end of the Fallopian tube. The ovary and Fallopian tube were then cut off, and the stump touched with subsulphate of iron. The abdominal incision was closed with silver wires and carbolized silk ligatures. On the third day the temperature ran up to $103\frac{1}{2}^{\circ}$ and pulse to 130. This was only transient, however, and with this exception they did not exceed 101° and 110. The operation was done the day before that on which menstruation was expected; this was unavoidable, owing to the impatience of the patient and friends. The menses appeared twelve hours after the operation, but were accompanied by very much less pain, and were of much shorter duration than before (for a year previously they had lasted three weeks). At the same time the patient was annoyed with a bad diarrhœa, which was, however, relieved by a hypodermic injection of morphia. Eight days after this the diarrhœa recurred, as the result of an enema of soapsuds and molasses; the stitches gave

away, and 3ij of pus was discharged from the incision (being evidently confined to the abdominal walls). The symptoms have since been all favorable.* One of the most justifiable causes for oophorectomy is the presence of fibroid tumors (except the subperitoneal variety) that can not be removed by operation.

The case is interesting as showing how long foreign bodies may remain in the uterus, without serious injury, and even while a patient is passing through so dangerous an operation as oophorectomy.

FRACTURE OF NECK OF FEMUR WITHOUT THE PATIENT BEING AWARE OF IT.—*Dr. J. Carey Thomas* reported the case of a healthy girl, age fifteen, an inmate of the Children's Aid Society Institution, who, whilst on a visit to her home in the country, slipped on the ice. She immediately got up and walked about as usual. The next day she went to school, but had to limp back home, and could not walk at all after that. A country physician, who was called in, pronounced it a case of rheumatism of the hip. She was then brought to the city, and was seen by himself and Dr. Alan P. Smith, who elicited crepitation in the neck of the femur, and was able, by extending the limb, to overcome the shortening which existed. The case was unusual and interesting in the fact that the girl was not aware of the accident at the time of its occurrence.

DIPHTHERIA AND FILTH.—*Dr. John Morris* reported the occurrence of six cases of diphtheria in one house. Five were attacked on the same day, the sixth four days afterward. All presented a serious aspect from the beginning, and three died on the fourth and fifth days of paralysis of the heart, due to the violence of the poison. The other three are likely to recover. The circumstances suggesting a local cause, an examination was made by the Health Department by direction of Dr. Steuart, Health Commissioner, which revealed a shocking sanitary condition of the premises. The yard was small, the privy being but twelve feet from the hydrant. The contents of the privy were running over into the yard and alley-way. The family cooked and lived in the basement; upon taking up the board floor of this, the ground was found covered with fecal matter. The cellar was stored with old lumber,

*The tent was subsequently exhibited, having been seven weeks and two days in the uterine cavity. About four months after, the patient is well and the menopause fully established.

much of which was rotten and decaying—the remains, evidently, of some old building intended for use as fuel. A goat was tied near the back door, and there was a large pigeon house, containing twenty to thirty pigeons, and in a filthy condition, just over the door. The family were dirty and offensive-looking, and the odor on entering the house was horrible. A child, who subsequently played with the goat, died of diphtheria. The yellow fever epidemic in Norfolk in 1855 originated from rotten shingles.

FATAL POISONING FROM CARBOLIC ACID.—*Dr. Chew* reported the case of a druggist who took by mistake half an ounce of pure carbolic acid. A stomach pump and emetics were resorted to about a quarter of an hour after the accident, but there was no vomiting. The patient was pulseless and comatose for several hours, then rallied and lived five days. Symptoms of blood-poisoning were present. The patient died from asthenia. The urine (examined on the second day) presented nothing abnormal. Swallowing was possible on the day of death, although accompanied with pain. Three weeks after death the body, which had been placed in a vault, was in a state of complete preservation, without the least odor or sign of decomposition.

RUPTURE OF MEMBRANA TYMPANI BY SLIGHT BLOW ON SIDE OF FACE.—*Dr. Chisolm* reported a case of this nature occurring in a gentleman who received a blow on the ear. Persistent buzzing in the ear, with complete loss of hearing, followed. It was the third case of the accident resulting from slight causes, that had come under his care. In the two others the injury was inflicted in one by a friend closing his hands over the ears of the patient, and in the other by a slight blow on the side of the head with the flat of a shovel.

Dr. Samuel Theobald thought there was probably some abnormality of the membrane in these cases. As a rule, such an accident ought not to produce deafness. Probably an old otitis media had previously existed, which had left the tympanum diseased, and consequently had caused some deafness. An ordinary incision in the membrana tympani will heal in twenty-four hours.

Dr. Chisolm replied that the ear was perfectly healthy before in each case. The ossicles were displaced and perhaps the injury had extended further inward by the

foot of the stirrup being driven through the foramen ovale.

RECOVERY FROM LARYNGEAL DIPHTHERIA.—*Dr. D. I. McKew* reported the case of a boy, *æt.* 15, who began to complain of his throat, fever, etc. In two days this had developed into one of the worst cases of faucial and nasal diphtheria he had ever seen. Shortly after the breathing became difficult. On the third day he was purple from obstruction in the larynx. Death was thought to be certain, and tracheotomy suggested itself, but *Dr. M.* was deterred from its use by the bad results which he had seen from it. At his visit next morning he was surprised to find great improvement in the breathing. The membrane gradually disappeared and the patient recovered. The case teaches that patients may recover in this affection even in the apparently hopeless cases. If he had been tracheotomized he would certainly have died. He thought if we trusted more to nature and waited longer, we would see more recoveries, and hence we would not have to submit to the bad statistics we now exhibit.

TWIN MONSTROSITY.—*Dr. Wm. Lee* exhibited a specimen of twin *fœtuses* obtained by *Dr. Whitridge* from a patient who had aborted at about the third month, probably in consequence of something she had taken. The twins were attached to each other by their sides. One had but one upper and one lower extremity, these parts being deficient on the side of the attachment. This *fœtus* also exhibited a sac, which occupied the site of junction. Subsequent dissection showed that this sac contained the intestines of that *fœtus*, which was not fully developed; also that the extent of attachment was one inch and occupied the situation of the false ribs and pelvis.

LEMON JUICE IN DIPHTHERIA.—*Dr. Steuart* called attention to this article, which he had been using for two years past, in recent cases of diphtheria. He employs it locally, cutting a lemon in two and mopping out the throat with a mop made of muslin. It removes the membrane better than anything he has employed. He continues the use of it as long as there is any membrane apparent, but has rarely had to apply it more than three or four times at most. He has not tried it in any malignant case. Several of his medical friends have tried it with equally satisfactory results.

Coition in Pregnancy.

BY THEOPHILUS PARVIN, M. D.

POPILIA, when reminded that pregnant animals did not permit the approaches of the male, frankly replied, "It is because they are brutes."

Undoubtedly abstinence from coition, once the design of this function has been accomplished, is the law of nature. Ought the human race to accept this law as governing its action?

Recent obstetric writers are generally silent upon the question; occasionally some half-bred—borrowing a term from Albany—writing medicine for the mass, sustains the negative, often qualifying the permission to indulge with certain cautions; but upon the whole there seems a tacit consent for the laity to settle the question as, guided by wise reason and kind sympathy on the one hand or by blind instinct and ungoverned passion on the other, they choose, just as my good friend the late Dr. M. B. Wright once said to me, "We must leave these matters to regulate themselves."

Yet our great master, Hippocrates, thought that pregnant women who abstained from coition had easier labors; Galen dwelt upon the liability to abortion from this cause at certain periods of pregnancy, the fruit more easily detached when more tender and when approaching maturity, so that the Christian Fathers had good authority for their injunction of continence in the early part and toward the end of pregnancy.

The older obstetricians of modern times did not think the matter unworthy of or improper for their consideration. Thus Mauriceau forbade intercourse in the first few days following conception and in the last two months of pregnancy. Dionis, the frank, honest fellow, criticised his reasons and condemned his rules, concluding in these words: "I shall add that Mauriceau made his observations from himself, for though married forty-six years, he did not have a single child. For my part, I have a wife who has been pregnant twenty times and has given me twenty children born favorably at term, and I am persuaded the caresses of the husband do no harm." Gardien, whose contribution to obstetric literature is one of the

most valuable and interesting of the century, devotes considerable space to the subject, and in the course of his remarks says: "It probably would be more prudent to abstain from using the rights of marriage from the time that pregnancy is certain up to the end of the lying-in."

The fact that abstinence from sexual congress in pregnancy is the common rule of animals is certainly a strong argument in favor of urging similar abstinence on the part of men. In addition it may be truthfully asserted that the pregnant woman has as little desire for coition as pregnant females of lower orders; nay, oftentimes utterly abhors while submitting, for she is less protected by power of escape.

Furthermore, practitioners are sometimes told by innocent husbands—more rarely by wives who so often suffer in silence—that intercourse causes the latter great pain.

Finally, this is a frequent cause of abortion; at least one half of the cases of what is termed spontaneous abortion probably are thus produced. Summing up the arguments* in the affirmative of the question, it may be stated that coition in pregnancy is unnatural; so far as woman is concerned, it is generally odious, often painful; and in regard to the newly-created being, frequently murderous.

What can be alleged on the other side? The peace of families and the chastity of husbands are secured by the indulgence. But suppose men were trained to believe that such indulgence is wrong, injurious to others and to themselves, would their amiability and chastity require to be purchased by a momentary pleasure? Would they not rather learn to subdue and rule this otherwise imperious passion? If Newton, Kant, Fontanelle, and Beethoven could live their many honored years with no indulgence of sexual passion, surely other men might abstain a few months without injury?

This ungoverned passion of man is prolific of evil, and, like producing like, the father who never has learned self-

*It is highly probable that in many instances both the leucorrhœa and nausea and vomiting of the early months of pregnancy are greatly increased by coition. Cases have been observed where the nausea and vomiting did not occur at all, or only in a slight degree, if the husband was absent during the pregnancy; while in other pregnancies, he being at home, these symptoms were most distressing.

control may give his son not only form and feature, but the germ of the same fierce, clamorous desire, which in its full development will prove a heritage of woe to that son and others. That which polite language veils under the designation *social evil*, and which desolates so many happy homes and brings its quick, black harvest of misery, remorse, disease and death, chiefly lives because man does not know aright, does not duly reverence and honor woman, and keep in subjection that which may become one of the master-passions of his heart, and is thus continued from generation to generation.

Surely prospective motherhood, woman within whom proceeds the evolution of the marvelous mysteries of creation, should be revered, is worthy of all kind and thoughtful consideration, and ought to have thrown around her all protective care. The woman who has conceived is *enciante*; that is, ungirdled—in allusion to the ancient custom of laying aside the girdle when pregnant and placing it in the temple of the gods—at once a preparation for the enlargement of the abdomen and a seeking divine protection. Let her not fail of all human care while in this condition. Nature then offers unto man invitation and opportunity to subordinate passion to reason, to conscience, to will, to a higher love, and thus raise himself above himself. A sensual age claims for coition facilitating parturition; and the most sensual of husbands, finding their wives pregnant very much against their wishes and in spite of the devices of conjugal onanism, will claim that they can now indulge freely and without fear, for matters can be no worse.

We do believe that intercourse in pregnancy has nothing to commend, nothing to excuse itself unto wise men, and that virtuous abstinence on the part of the husband will be a blessing both to him and to his wife and to their posterity.

It may be objected that the abstinence here advocated contradicts almost universal practice—a practice that frequently brings no evil. But how do we know it has no injurious results? Admitting that the wife may, in the majority of cases, not patently suffer—have no miscarriage, no pain, no nausea or vomiting increased or excited thereby—is there no violence done to the finer elements of a refined womanly nature? Does such a woman

cheerfully accept it as the way of all, like Hiero's wife, who never perceived her husband's offensive breath, imagining that it was common to all men? It seems that there might follow some lessening of mutual love, respect, reverence.

So far as the husband is concerned, he learns no lessons of self control, attains no self-mastery in this regard, and mars that ideal manhood which in better hours and with nobler aspirations he seeks to attain. He will be quite ready in such hours to adopt, as applicable to the act, the concluding clause, while he may reject the first, of the following extract from Sir Thomas Brown's *Religio Medici*: "I could be content that we might procreate like trees, without conjunction, or that there were any way to perpetuate the world without this trivial and vulgar way of coition. It is the foolishness of a wise man commits in all his life, nor is there anything that will more deject his cooled imagination when he shall consider what an unworthy piece of folly he hath committed."

As to the other objection, no matter how universal a practice is, if it be wrong, at least endeavor to point out the wrong. Whether I judge from observation, from the great doctrine of evolution which so fascinates the age, or from the power of divinely revealed truth, the conclusion always is that the world grows better, and that a wiser, higher, happier, nobler generation will one day possess the earth. Each evil pointed out, each wrong discovered, helps the progress to that day, although it may be long before the evil and the wrong cease. Meantime it is a great mistake to accept a popular vote as the criterion of wisdom and right.

Possibly physicians are too reticent in regard to sexual relations, do not consider as fully as they ought the connection of these with human health and happiness, and give that instruction to the people which is so much needed in regard to such relations. Believing this, I can say in the words of Montaigne, "I know very well that few will quarrel with the license of my writings who have not more to quarrel with in the license of their own thoughts."

This may be the voice of one crying in the wilderness, but even in the wilderness many heard. If only truth

be uttered, it one day will be heard and heeded by some, and when heard and heeded will multiply itself a thousand-fold.—*American Practitioner.*

Clinical Lecture.

BY JOHN ASHHURST, JR., M. D.,
Professor of Clinical Surgery.

CURE OF HYDROCELE.

Gentlemen: The first case that I have to show you to-day, although no novelty in the clinical amphitheater, is one, at least, that is always of interest.

The patient tells us that, eight or nine months ago, he noticed, on the left side of the scrotum, a swelling, small at first, but gradually increasing in bulk, until now, by its size and weight, it has become a source of great annoyance. Upon examination, I find quite a large tumor; the skin over it thin and almost transparent, with some, though not well marked, enlargement of the superficial veins. The tumor is itself pyriform in shape; in consistency, quite soft and almost fluctuating. I notice, also, that its weight is much less than a mere view of its bulk would lead us to suppose. From what we have already ascertained as to the history of the slow growth of the swelling, as to the symptoms from which the patient suffers, and as to the feel and specific gravity of the tumor, as revealed by palpation, we can at once, without going through with the usual test of transmitted light, proceed with the inference that we have here to deal with a hydrocele, or with hydrocele fluid.

There are two operations to which we can resort in the treatment of hydrocele, namely: the palliative, and the radical. The palliative treatment, which I will employ in the present instance, will, in all probability, be followed by a gradual return of the effusion, until the tumor may equal, or exceed, its present size. By the time that the fluid again accumulates in sufficient quantity to be withdrawn, the patient will, no doubt, be prepared to submit to the radical operation, to be hereafter described.

In proceeding to operate after the palliative method there are two dangers, both of which one must be careful to avoid, namely: injury done to the superficial veins,

but, more important still, to the testicle itself, which in this case, as is usual, is situated at the back of the tumor. Seating our patient on the edge of a chair, anæsthetization being unnecessary, we at once, with a direct thrust, plunge a small trocar and canula into the tumor (avoiding the dangers already alluded to), with sufficient force to pass through all the intermediate tissues at once. When the point is felt to be free within the tunica vaginalis, let the end of the instrument fall, and withdraw the trocar. You will observe that, on the withdrawal of the trocar, a clear, amber-colored fluid, characteristic of hydrocele, flows freely into the basin held by an assistant. When all the fluid possible has been evacuated, the canula may be removed, the scrotum being first pinched up around it, in order to prevent the escape of fluid into the tissues. This is done because, if the precaution is neglected, abscesses may thus be formed. Nevertheless, it is very unusual for such accidents to happen; in point of fact, one method of treatment employed, in cases of hydrocele, is to allow the fluid to drain into the scrotum, and there be absorbed. With the application of a small slip of adhesive plaster over the wound, the operation is concluded, and the patient can resume his usual occupation, without either inconvenience or danger.

There is, however, another variety of this affection, the encysted hydrocele or spermatocele, in which a cyst is developed in connection with some part of the testicle itself. A similar method of operative interference is here resorted to (the fluid withdrawn being sometimes milky white, and with spermatozoa present in it), but it must be held in mind that it is not borne so well as in the ordinary form of hydrocele, and greater care is necessary in the after treatment, lest serious inflammatory action be set up within the cyst.

The radical treatment of which we have already spoken, and to which this present operation is preliminary, consists in the withdrawal of the contents of the sac, and the injection of some fluid, preferably the tincture of iodine, into the cyst-cavity. I say "preferably the tincture of iodine," for, although many other injections are used, and that, too, with greater or less success, I have found in my experience that, although not invariably followed by a permanent cure, iodine, of all things, can be the most relied on, when used as advocated by the late

Professor Syme, of Edinburgh, that is, by injecting the undiluted tincture and allowing it to remain. Another mode of treatment sometimes resorted to is the introduction of a seton, which has, however, the disadvantage that it sometimes sets up suppurative, instead of the desired adhesive inflammation.

HOW AND WHEN TO OPEN AN ABSCESS.

The second case that comes before you to-day is one that has just presented himself, and which I will proceed to examine with you. The hand that the patient shows us is inflamed and swollen, and he tells us that for the last six weeks it has been in nearly the same condition. Observe that the whole palmar surface is hardened and indurated, and at one point the skin is dusky, and there is evidence of the presence of pus under it. We have here, in short, a palmar abscess, than which, on account of the inextensibility of the surrounding tissues, few things are more painful. I generally open an abscess of this kind with a sharp, narrow, straight bistoury, which should be introduced with a quick, plunging motion, and then withdrawn toward the operator. Making the incision in this manner, some little pus is seen to escape, and there is slight bleeding only. As to the after treatment, I would advise the application of some simple poultice, such as has already been used by our patient, and the arm should then be put upon a splint, which, if not absolutely necessary, is at least of advantage in the keeping of the part at rest. It was not considered advisable to open an abscess until it becomes what is called "ripe," but we have, I think, exceptions to this rule in palmar and digital abscesses. In them the tension is so extreme, and the danger of the involvement of the neighboring parts so imminent, that both these forms of abscess should at once be opened, otherwise the tendons may become involved and slough, and the bones even being affected, an amputation may be made necessary. The later complication follows oftener the digital than the palmar abscess. It is argued by some that in opening an abscess before it is "ripe," you may open it in one place, while it may subsequently point in another. To wait until the abscess points is in some cases the best rule to adopt, as in the mammary abscess for example; but in the digital and the palmar abscess, an incision, in the majority of

cases, is indicated so soon as, or sometimes even before, the presence of pus is detected.

Puerperal Eclampsia Treated With Chloral Hydrate and Morphia.

Being a Report of Six Cases with Remarks.

BY E. P. EASLEY, M. D.

Mr. President and Gentlemen: In December last I had the pleasure of reading a short paper before your society on the treatment of tetanus and puerperal convulsions. I wish now to reiterate and emphasize some of the statements then made, as well as give you my further experience, and the experience of several of the New Albany physicians, with chloral in the treatment of puerperal eclampsia.

Those of you who heard my former paper will remember that I said then that the danger in this disease was in proportion to the violence and continuance of the spasms, and that if we could control these most of our cases would end in recovery; and further, that I relied on chloral to effect this. Now that is my opinion still, and my faith in the efficacy of this agent is greater than ever. It increases with my own experience and with my observation of its results in the hands of other practitioners.

Since I last met with you there have occurred in our city no less than six cases of this frightful malady—two of them resulting fatally. Believing that a brief report of each case would be interesting and instructive, I am led to give you the principal features of each and the treatment pursued.

CASE I.—Mrs. D., aged about thirty-five, plethoric, mother of seven children, during her confinement last January was seized with convulsions. She was attended by several of our leading physicians. They gave her chloral per rectum and morphia subcutaneously, but not in large doses. She recovered. But I learn that there is a diversity of opinion among her attendants as to the relative benefits in her case of the chloral and morphia.

CASE II.—Mrs. H., aged about thirty-six, plethoric, mother of one child sixteen years old, on the first of the present month, when near the end of her seventh month of gestation, was attacked with convulsions. Her physi-

cian, Dr. Bowman, gave her forty-grain doses of chloral in the rectum at short intervals, and also two doses of morphia, one-half grain each, four hours apart. In ten or twelve hours she was perfectly conscious and free from any tendency to spasms. She took thereafter bromide and bitartrate of potassium daily for two weeks, when she gave birth (normally) to a dead fetus.

CASE III.—Mrs. G., primipara, aged nineteen, was seized with an eclamptic fit on the 12th of May, 1881. Dr. L. C. Neat, who was called to see her, immediately administered sixty grains of chloral by the rectum, and one-third of a grain of morphia by subcutaneous injection, and repeated the chloral injection in an hour. These measures controlled the spasms for twenty-four hours, when they returned again, and the chloral was once more resorted to. Thirty-six hours subsequently she had a natural labor without any accident to herself or child.

CASE IV.—On April 10, 1881, M—A. (colored), primipara, aged eighteen, had a normal labor. Two hours afterward convulsions supervened. She was then given one-fourth of a grain of morphia hypodermically. Six hours later the spasms returned, and the morphia was repeated. The case terminated in death eight hours after the first convulsion.—*Louisville Medical News*.

Dextro-Quinine Formulary.

THE increasing use of dextro-quinine has given rise to many inquiries as to the most efficient methods of prescribing it. We therefore append a number of approved formulæ. We will state that it is easily made into pill form. For this purpose an excellent excipient is honey. In dissolving it for use in solution aromatic sulphuric acid should not be employed except by an expert pharmacist, as the sulphuric acid combines with the dextro-quinine, and a granular mass is the result, difficult to work.

The best solvent for dextro-quinine is secured by the use of strong hydrochloric (muriatic) acid. It is readily soluble in this, its solubility being increased by slightly warming the mixture of acid and dextro-quinine. Its solutions being bitter, it is best to suspend them in Quin-Cordial, Elixir of Licorice, Elix. Eucalyptus Comp., or other simple vehicle. The solution mixes readily with proto-

chloride of iron, but is incompatible with sesquichloride of iron and all ferric salts.

IN INTERMITTENT FEVER.

Dextro-Quiniæ, ʒss.
Syr. Glycyrrhizæ fl ʒ iv.
Misce.

Sig. For children.—Teaspoonful or more two or three times daily, according to age, in intermittent fever.

FOR REMITTENT AND INTERMITTENT FEVERS.

R̄ Dextro-Quiniæ ʒ j.
Leptandrin, grs. xx. iv.
Ext. Nuc. Vomicæ, aa grs. ij.
M. ft pil No. xxiv.

Sig.—Two every two hours while the skin is cool, between the time of the fever and the expected chill.

FOR WHOOPING COUGH.

R̄ Dextro-Quiniæ, ʒ j.
Sol Acid Hydrobromic (Fothergill), f ʒ iss.
Syr. Zingiberi, f ʒ iss.
Aquæ ad, f ʒ vj.
Misce.

Sig.—A dessert-spoonful four times a day. The dose to be increased according to age.

DR. GROSS' NEURALGIC PILLS.

Dextro-Quiniæ, ʒ ij.
Morphiæ Sulphatis, grs. iij.
Strychniæ Sulphatis, grs. ij.
Acid Arseniosi, grs. iij.
Ext. Aconiti, grs. xxx.

M. et div in pil No. lx.

DR. GROSS' NEURALGIC PILL—WITHOUT MORPHIA.

Dextro-Quiniæ, ʒ ij.
Strychniæ Sulphatis, grs. ij.
Acid Arseniosi, grs. iij.
Ext. Aconiti, grs. xxx.

M. et div in pil No. lx.

FOR LUMBAGO.

R̄ Dextro-Quiniæ, ʒ j.
Cimicifugin,
Camphoræ, aa grs. xv.
Ext. Gentianæ, grs. xxx.

Misce et div in pil No. ix.

Sig.—Two every four hours until fully relieved. Afterward, two or three times daily, until entirely well.

FOR THE NIGHT SWEATS OF PHTHISIS.

R̄ Dextro-Quiniæ, 5 j.
 Acid Sulph. Dil., f 5 ij
 Syrup Zingiberi. . . . f 3 j.
 Aquæ ad., f 3 iv.

Sig.—Dessert-spoonful at night, before going to bed.
 "Checks night sweats promptly." Dr. R. V. Mattison.

FOR OBSTINATE FACIAL NEURALGIA.

R̄ Dextro-Quiniæ, 5 j.
 Morphiæ Sulph., gr. ijs.

M. ft chart No. vj.

Sig.—One powder three hours before expected attack, and repeated in three hours if necessary. Dr. C. W. Thomas.

FOR INTERMITTENT FACIAL NEURALGIA AND CEPHALALGIA.

R̄ Dextro-Quiniæ, grs. xxx.
 Ammonii Chloridi, grs. xx.

M. ft chart No. vj.

Sig.—One powder, three times daily, "promptly alleviates the suffering." Dr. W. Matthews.

FOR INTENSE CEPHALALGIA.

R̄ Dextro-Quiniæ, 3 j.
 Ext. Hyoscyami alc grs. ij.

M. ft pil No. xij.

Sig.—One pill every three hours, beginning three hours before the expected attack, "gives the most happy results." Dr. C. O. Dunlap.

ACUTE MILIARY TUBERCULOSIS IS MISTAKEN FOR TYPHOID FEVER.—Senator reports a case (*Berliner Klinische Wochenschrift*) of acute miliary tuberculosis in a man aged 48, who was for three weeks in hospital under his care, in whom the disease was not suspected until the autopsy. The most prominent symptoms were enlargement of the spleen, fever, roseola, and suppurative parotitis, and at the beginning epistaxis and hiccough; upon these symptoms, and absence of those pointing to the lungs, the diagnosis of typhoid fever was made. On post-mortem, there were no appearances of typhoid, but general tuberculosis of both lungs, spleen, liver and kidney, and enlargement of the bronchial glands.

MICROSCOPY.

The Study of Infusoria.*

BY DR. S. O. GLEASON.

INFUSORIA are microscopic creatures, very minute, of almost endless variety, found in infusions of animal or vegetable matter. In their adult or complete form they are furnished with prehensile or locomotive appendages, in the form of cilia, flagella and tentaculæ. They are unicellular, free or sedentary, live in a mucilaginous matrix, single or united in colonies. Food is incepted into a distinct oral aperture, through a limited terminal region, or through the entire surface of the body. They increase by longitudinal or transverse fission, and by external or internal gemmation, preceded by a quiescent or encysted state, resulting in a greater or less number of sporular bodies. The infusorial world, with its countless number of inhabitants—more numerous than the stars, or the sands of the seas, surrounds us upon all sides! They abound in the river, creek, pool, pond and the open sea. Every blade of grass, every flower, the atmosphere we breathe, the food we eat, swarm with them. There is no limit to the diffusion of life where air and moisture exists, fascinating alike the biologist and the young explorer in the study of their forms and habits. Particularly is this the case since the great improvements that have taken place in our optical instruments, during the last ten years, by means of which the most minute, elementary and beautiful forms of life have been studied.

Siebold, in 1805, expressed an opinion that animalcules consisted of simple cells or vesicles, forming protoplasmic masses, from which all higher organisms were evolved, and that in turn the higher passed into the lower forms. Tracing these minute creatures through their various changes, brings us to the dim, shadowy line (too subtle, too obscure for positive definition) that separates or blends all animal and vegetable life together.

A brief history of the more important epochs of infu-

*Abstract of an article read before the Elmira Microscopical Society, February 24th.

social investigation might be arranged somewhat as follows: The original inventor of the microscope, or the double convex lenses used as such, can not be positively identified. These investigations commenced over two hundred years ago, and we are surprised at the results obtained by those early investigators, with the rude appliances with which they worked. Out of the use of these simple lenses, through long and tedious processes, was evolved the compound microscope. Fontana, of Naples; Drebell, of Germany, and Jansen & Son, of England, have in turn been credited with the invention, which, in its simplest form, attracted public notice about the year 1619. Nearly half a century passed before it was regarded as more than a toy, until Petrus Borelus, an Italian, made some discoveries among the lower forms of animated life. Then came an Englishman, Dr. Robert Hooke, who, in 1665, wrote his famous "Micrographia Illustrata." A few years later the illustrious Dutchman, Antony Van Leeuwenhoek, made extensive scientific researches in the field, and stimulated others to take up the study. His earliest contributions are found in "Philosophical Transactions" for the year 1667. [Examples of this eminent investigator's descriptions of the curious infusoria he had met with were given, the quaint expressions causing much merriment.] Further investigations were made by some Englishmen in 1703, confirmatory of what Leeuwenhoek had discovered with his simple apparatus, twenty-five years before. Next, the names of Sir E. King, John Harris and Stephen Gray are recorded as those of able contributors and investigators in this respect.

The very first illustrations of infusoria are found in a publication of Sir E. King. John Harris gave the first description of *Euglena viridis*, and he made some very shrewd observations on their rapid mode of reproduction.

The Doctor next touched upon the very crude, but ingenious contrivances that early investigators used in making their remarkable discoveries. In 1703 several of the larger species of infusoria were accurately described and figured by Leeuwenhoek, Wilson and others, Wilson claiming to have constructed a lens that magnified 640 diameters. In the earlier half of the eighteenth century contributions to infusorial history were made by Louis Joblot, Henry Baker and Abran Trembly. Joblot in 1718, published a treatise on "Microscopes and Infusoria,"

in which his imagination played havoc with existing facts. Henry Baker, in 1742, wrote a book, entitled "Microscope Made Easy," which contributed to the stock of knowledge of infusoria. Trembly described the *Hydra* and *Stentor* with great accuracy about this time. In 1786 Otto Frederick Muller published a work with no less than fifty plates and 367 pages of letter-press, devoted to descriptions of about 300 species.

Gluchen was the first to demonstrate that infusoria assimilated finely triturated carmine. Spallanzani demonstrated the "pulsating vesicle." Up to 1830 all infusoria were classed in two orders; one embracing the rotifers, and the other, the apparently structureless and homogeneous animalcules. In 1838 Ehrenberg published his great work, "History of Infusoria," which surprised the whole scientific world. The treatise contained 532 pages, with an atlas of 64 colored plates of several hundred species. This work to-day remains one of the recognized authorities, and challenges our admiration for the wonderful results obtained by this indefatigable worker, with the imperfect instruments used in his investigations.

In 1841 Dujardin published his celebrated work, which gave entirely new views of the organization of many groups of infusoria, and corrected some mistakes made by Ehrenberg. He discovered that the Foraminifer possess no distinct organs, that they have a simple gelatinous body, capable of extending fine, thread-like prolongations in every direction, by means of which they adhere to and creep over objects in the water. He described and named the *Diffulgia* and the naked *amœba*, and from their putting forth root-like extensions for locomotive purposes, gave the name of Rhizopoda to this class of creatures. He entered into an investigation of their anatomy, and named the body-substance sarcode. He denied that they had any nervous, muscular or complex digestive system, as taught by Ehrenberg. He found that food was not retained in any permanent stomach-sacs, but passed into the sarcode mass to be expelled anywhere after the nutritive portions had been absorbed.

In 1845 Carl Theodore von Siebold came to the front, asserting the unicellular nature of infusoria. He established the sub-kingdom Protozoa, and divided it into Rhizopoda and Infusoria.

In 1860-61 Max Schultze developed and modified the theories of Siebold. He claimed that in many cases there was no distinct cell-wall, but that the cell was made up of a multiplicity of cells without walls, indistinctly amalgamated with each other. He gave the name protoplasm to the cell that seemed to have no cell-wall. He originated the idea that the cell-contents of all animal and vegetable organisms are made up of a similar protoplasmic basis that is typified in the amœba, as a mere speck of animated, undifferentiated protoplasm.

In 1861 Andrew Pritchard compiled his work, but gave us nothing essentially new. In 1868 Prof. H. James Clark, of this country, discovered a new type of flagellate infusoria, and announced that all sponges consisted of a colonial family of flagellate animalcules. In 1873-75 Dallinger and Drysdale made some splendid investigations with the improved microscopes then in use. The work principally resulted in the discovery of the rapid manner in which flagellate organisms multiplied, and that like forms beget like. In 1876-77 John Tyndall made some important investigations upon the organisms found in impure air and in putrefying substances, showing the vital persistence of putrefactive and infective organisms. This brings the history of infusoria down to the present time.

Microscopic Tests for Poisons.

PROF. ROSSBACH has just published, in the Vienna *Klinische Wochenschrift*, some remarkable delicate tests for the presence of poisons when they are in too minute quantities to answer to any chemical tests.

As small animals like frogs, mice, etc., are known to be very susceptible to the action of certain of the poisonous alkaloids, so this fact is taken advantage of and very weak solutions introduced into their circulation. Delicate and wonderful as the tests are as applied to frogs, etc., still Prof. Rossbach gives far more delicate ones. A drop of water containing infusoria is placed on a glass slide and examined uncovered. The infusoria are examined carefully as to size, form, color, etc., then a drop of the solution is placed just to the edge of the fluid containing the infusoria. If organic poisons be present the

infusoria are instantaneously destroyed, becoming a formless sediment. He startles us with his figures. "If a drop of water containing infusoria and weighing .001 grain be used as a test the quantity of strychnine required to cause remarkable changes will be .00000006 of a grain. In this way $\frac{1}{15000000}$ of a grain of atropine can be detected." Thus, he says, if the stomach of a person poisoned by strychnia contains a *litre* of fluid and only $\frac{1}{4}$ of a grain of the alkaloid, a single drop of this fluid will contain 40 times as much strychnine as is necessary for the test.

THIN GLASS COVERS.—A microscopist has taken the trouble to measure the thin glass covers purchased at a first-class house, and found that in two ounces but one-third were correct in their thickness $\frac{1}{150}$ to $\frac{1}{200}$ of an inch, two-thirds belonging to a cheaper grade. Only one sixty-eighth were $\frac{1}{200}$ of an inch in thickness, the majority being only fit for opaque objects.

GLEANINGS.

LOCAL TREATMENT IN DIPHTHERIA.—The *British Medical Journal* gives the opinions of a number of leading English practitioners upon the use of remedies locally in diphtheria. Dr. Octavius Sturges has not been able to convince himself of their utility; he believes that the great safety in diphtheria is in early tracheotomy. Dr. Edward Woakes applies the solid nitrate of silver very freely, stirring it into, and if possible under, the exuded mass, completely breaking up the latter so as to reach the diseased surface beneath. In very bad cases he makes this application as often as three times a day. He also uses disinfectant mouth and nose washes, and internally pushes the perchloride of iron to the limit of toleration. Dr. McCall Anderson has great faith in a spray of carbolic acid, 2-3 grs. to the ounce. Dr. Robert Cory employs a spray of sulphurous acid (B. P.) carbolic acid (1 to 60), or permanganate of potash (gr. i to $\frac{3}{4}$ j). Dr. Adler Smith uses repeatedly a dilute carbolic acid steam spray. Dr. Thomas Barlow applies daily the glycerin of carbolic acid. Dr. Prosser James uses lactic acid, both as spray and applied with a brush; he also be-

lieves in the utility of frequent inhalations of steam. Dr. Richard Neale finds lactic acid, applied with a brush, un-failing in its speedy action, removing the false membrane and preventing its reformation, a result to which he attaches very great importance. Dr. Burney Yeo mops the throat at the beginning with equal parts of the liquor ferri perchloridi (or carbolic acid) and glycerin, using simultaneously gargles of chlorate or permanganate of potash. Later, when the membrane is more extensive, he employs as a spray \mathfrak{ss} carbolic acid, gr. 80 borax, \mathfrak{viii} warm water. Dr. Frederick Roberts uses at an early period, to prevent the spread of the membrane, a caustic (nitrate silver stick or solution, hydrochloric acid and water, equal parts, etc.) by means of a brush, efficiently, once for all. To dissolve the membrane, or render it innocuous, he advises inhalations of steam, lactic acid, chlorate of potash, etc. To prevent absorption of putrefying matters, and consequent septicæmia, applications of chlorate of potash with dilute hydrochloric acid, chlorinated soda and carbolic acid, sulphurous acid, or similar agents properly diluted, are applicable. Frequent sucking of pieces of ice often gives great relief. He prefers the spray to other modes of application. Dr. Sydney Ringer has seen good results from the use of carbolic acid and glycerin.

CASTRATION FOR DEMENTIA FROM MASTURBATION.—Dr. N. L. Folsom, of Portsmouth, N. H., writes: "In 1843 Dr. Josiah Crosby, then at Laconia, N. H., and later at Manchester, N. H., (and brother of the late Prof. Dixi Crosby, at Hanover, N. H.) with the assistance of myself and another medical student of his, castrated (with the consent of the patient and his father) an intelligent young man, a school teacher in the country, for approaching dementia from masturbation. The operation completely cured and restored him to usefulness and to society. He had ceased to leave his house, or to mix with any society, and did not wish to see any one. This young man, twenty-two years old, I think, had been medically treated by other persons until his father had given up all hope of recovery for a long time. In my opinion no other treatment, not even the porte caustic (and Dr. Crosby had that instrument), would have saved him from complete dementia. I have looked upon the cure of this young

man through my whole professional career, as a wonderful achievement. He became afterwards an active business man, such as a clerk in a postoffice, selling goods, etc., etc. There are thousands of just such cases throughout the land, who, by this treatment and by no other, can be cured, but no one dares to prescribe this and execute it, for fear of his reputation, and possibly a prosecution by some of his nearer relatives, and perhaps by himself, put up to it by some briefless and unprincipled lawyer or meddling doctor. Extreme cases of this kind are incurable by any other treatment. I think that superintendents of insane asylums should, by the consent of the man's friends and others, castrate hopeless cases of dementia from masturbation. Other treatment for a reasonable time should be tried.—*Mich. Med. News.*

POST-PARTUM HEMORRHAGE—THOMAS.—Dr. T. G. Thomas, of New York, in concluding a discussion on the subject (*Proceedings Kings Co. Medical Society*) said that in the treatment of post-partum hemorrhage the rule should be this:

If the hemorrhage is slight, and for good reasons you do not wish to pass the hand into the uterine cavity, try the hypodermic use of ergot; apply excessive cold or excessive heat to the fundus, force the uterus into firm contraction under your hand, and never let go of it until the woman stops bleeding. How long shall you hold the uterus? I have repeatedly held it, under such circumstances, for 12 hours.

But suppose it fails and the hemorrhage continues. Then wash the hand and arm thoroughly with soap and water, use a nail brush thoroughly, dip the hand and arm in warm, strong, carbolized water, and, without wiping them, carry the hand up to the fundus uteri, sweep everything out, and keep the hand there until the uterus contracts. Pass the pulp of the fingers up and down the sides of the uterus in any direction, and at the same time make counter-pressure from the outside with the other hand upon the wall of the abdomen.

If you fail with this, what next? It is a bad case, and you may resort to anything which produces a decided shock to the nervous system; give hypodermic of ergot, brandy and ether hypodermically, and lastly, give a fair trial to the Faradic current.

AN EXHILARATING MIXTURE. — M. Luton discovered by accident the effects of the following exhilarating mixture. Tincture of ergot of rye, five grammes (gr. 75); solution of phosphate of sodium (10 per cent.), 15 grammes (3 ss). Mix in a quarter of a glass of sweetened water, and give at one dose on an empty stomach. In very susceptible excitable people, a condition is produced resembling that following the inhalation of nitrous oxide gas; they laugh excessively, feel slight dizziness on attempting to walk; and in many ways suggest alcoholic intoxication. In those who are more sedate and imperturbable, a condition of mild exhilaration merely is induced; the cutaneous circulation is improved, a feeling of buoyancy and cheerfulness develops itself, and lasts for several hours, the patients being agreeably conscious of mental and physical stimulation. The author has verified these observations in so many cases that they must be considered established. He has found different individuals equally susceptible, but has been able to assure himself that there is always some effect. As might be expected, men are less affected than women; in no case has any unpleasant result been observed. The author feels himself justified in recommending his discovery to the profession, although compelled to do so on a purely empirical basis, having arrived at no satisfactory explanation of the action of the mixture. He especially advised its use in cases of melancholia, hysteria, chlorosis, and the various conditions in which languor and depression of spirits are present. The patients to whom he has given it were sufficiently convinced of the efficacy of his prescription to ask for its repetition, assuring him of the benefit they derived from its use.—*N. Y. Med. Jour.*

PERINEAL LACERATIONS.—I have not referred to the primary treatment of *perineal lacerations*, that is, their treatment immediately upon the conclusion of the labor during which they have occurred. This subject concerns the obstetrician as much as it does the gynæcologist. On the one hand we have physicians who think the introduction of sutures at this time inadvisable, and on the other hand those who declare that the neglect to do this is reprehensible. The following, is, I think, a fair general statement of the matter: In the great majority of cases sutures introduced with skill immediately after the injury

has occurred, keeping the torn surfaces in apposition, will give the woman comfort, and increase the chances of a good union, although of course, it may not take place. In many cases where the sutures are used they are used with such want of skill and in such bungling manner that they fail to insure apposition of the parts, in fact act merely as setons to increase inflammatory action, and, if a good union is obtained, it is not because of the sutures, but in spite of them. In certain cases, owing to the condition of the puerperal woman, it may be bad practice to attempt the primary treatment of the lesion. Such cases are exceptional, however. The "diminution of the chances of the septicæmia" by the closing of ("even slight") perineal wounds, which has been much dwelt upon, of late, would seem to have been much exaggerated.—*Clifton Wing, M. D.*

POISONED BY POSTAGE STAMPS.—We hear of a young man belonging in this city who has recently been quite severely poisoned by corrosive sublimate contained in the mucilage upon postage stamps, which he had moistened with his tongue as he stuck them upon some 200 envelopes. The poison had been taken in sufficient quantities to produce violent pains in the abdomen and limbs, and other symptoms of quite an alarming nature. We believe the young man was confined to his bed for some days.—*Keene (N. H.) Sentinel.*

MR. LISTER, recently, in a case of fractured patella, laid open the joint with antiseptic precautions, evacuated the extravasated blood, and brought the fractured ends of the patella into apposition by a strong wire suture.

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"THE NEW B. & O. RED BOOK FOR OHIO.—This is a pamphlet, of scarlet red color, issued by the *Baltimore and Ohio Railroad*, containing a large amount of valuable political information. It gives the Republican, Democratic and Greenback vote by counties for state officers, 1879 and 1880; the vote for Presidential Electors, 1876 and 1880; also for Congressmen by counties and districts, 1878 and 1880—showing the majorities the years named, gains and losses, and total vote the same years with gains and losses. It is astonishing how much highly interesting

information is crowded into so few pages. Many a time an individual—for a want of the kind is often felt—would willingly pay a dollar for a work like this, yet it is to be had without charge by writing to C. K. Lord, Baltimore, Md. The one for Ohio is a sub-edition. There is a complete work, we believe, for the whole country. The collaborator is Mr. J. G. PANGBORN. We have no doubt all our readers will avail themselves of the opportunity to secure so valuable a work, since it is to be had for the asking.

BOOK NOTICES.

A MANUAL OF HISTOLOGY.—Edited and Prepared by Thomas E. Satterthwaite, M. D., of New York, President of the New York Pathological Society, etc., in Association with Drs. Thos. Dwight, J. Collins Warren, W. F. Whitney, W. H. Porter, and some ten or twelve others. With 198 Illustrations. 8vo. Pp. 478. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

The object of this book, as stated by the editor, is to meet a general demand among the members of the profession for a manual of Histology, summarizing, in concise and plain language, our present knowledge in this fundamental branch of medicine. It is the design to strike a medium course between those works whose brevity on the one hand, and diffuseness on the other, make them unfit for text-books for students, or for works of reference for physicians.

The first two chapters are devoted to a description of the microscope, how to use it, how to select lenses, how to prepare objects for examination, how to stain them, how to preserve them, etc. As is generally the case with works on histology, where an attempt is made to give instruction in regard to using the microscope, or advice in selecting one, and testing the merits of the lenses, etc., it would have been better to have omitted all that is said on this head. A writer like Dr. Satterthwaite has given his attention so entirely to his histological researches, and so little to the microscope itself as a scientific instrument, in which is involved philosophical principles of the highest order, that what he has to say in regard to it is of no

value. It is probable he has never looked through any other lenses than three or four belonging to himself, which were made a good many years ago. His ignorance of recent and greatly improved lenses is shown by his stating as a good test of the resolving power of a ten-inch immersion objective the ability to resolve [the lines of *p. angulatum*—a diatom. All microscopists know that a first-class half-inch will easily do it, and that a quarter-inch dry glass that will not do it is a very inferior power. The second quality quarters of all good makers readily do it. Again, he does not seem to be aware that a quarter or fifth of a given angle of aperture, and correctly constructed, may be made to exhibit anything that can be brought into view by a twelfth or higher power of no greater or less angle; and, consequently, with such a lens we can secure any desired amount of amplification by means of the drawtube and deeper eye-pieces. But to give attention to the work as descriptive of histology:

While we do not precisely agree with the editor, that there is felt a want for a text-book of histology for students, unless for the purpose of recording new and important discoveries, yet we regard this work as one of great excellence, which will be greatly in demand by students and physicians. It is written in plain, intelligible language, free from unnecessary verbosity, and, while nothing of importance is omitted, there are avoided discussions in regard to unsettled subjects, and tedious details are shunned. It is a work that one can read right along with a great deal of interest, anxious to be informed of the organization of the various tissues and structures of the body as they are brought to the attention. None the less valuable in consequence, it possesses the power of entertaining to a greater extent than any professional histological work with which we are acquainted. It contrasts strongly, in this respect, with a number we could mention, and yet it is equally instructive.

It is divided into three parts. Part I., containing eight chapters, has been written by the editor. Besides describing the microscope, this part treats of the blood, the epithelium, connective tissue, the teeth, etc. Parts II. and III. have been written by some ten or twelve other writers, who show a thorough knowledge of the subjects on which they have written, and treat them in a very interesting and intelligent manner.

The work is an exclusively American production, and should be popular with the medical students of this country.

THE APPLIED ANATOMY OF THE NERVOUS SYSTEM.—Being a Study of this Portion of the Human Body from a Standpoint of its General Interest and Practical Utility, Designed for Use as a Text-Book and a Work of Reference. By Ambrose L. Ranney, A. M., M. D., Professor in the Medical Department of the University of the City of New York, etc. With Numerous Illustrations. Svo. Pp. 500. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

This volume comprises a course of lectures delivered before the students of the University of the City of New York, and are, therefore, of a sort of colloquial style.

Very great strides have been made in our knowledge of the nervous system. The anatomy of it is better understood, as, also, is its physiology; consequently we are able to more correctly interpret the symptoms of nervous diseases than formerly. While it is still often difficult to locate precisely what part of the brain is involved in disease, and to define its exact nature, yet so great advance has been made in what we know of the brain, that a great deal of what used to be obscure is now understood.

The work is devoted to the consideration of the anatomy, the physiology, and the symptomatology of the nervous system, as we have it in the brain, spinal cord, the cranial and spinal nerves. These treated together, and fully explained, make it more easy to explain clinical points and elucidate obscurities in localizing affections. We will quote at random from page 347, although it is probable that with a little search we could find many other illustrations better exhibiting the character of the work: "If you will look at the diagram of the spinal cord (see cut in book), you will perceive that the lower portion of the lumbar enlargement is represented as giving origin to the *sciatic nerve*; hence, it is reasonable to expect that a lesion, situated in the lower part of this enlargement, would be manifested by symptoms of an incomplete paraplegia, in which the muscles supplied by the sciatic nerves would be the most affected. Now, this fact seems to be confirmed by clinical experience, since the feet, legs, posterior aspect of the thighs, and the region of the nates

are chiefly paralyzed when the lesion is so situated. The bladder is unaffected, but the sphincter ani muscle is often rendered paretic, or it may be entirely paralyzed. The portions of the limbs, which are to become the seat of paralysis, usually exhibit a *sense of numbness* before the effects of the lesion are fully developed, and, in case the posterior columns of the cord be involved, complete anesthesia may also exist in the parts supplied with motor power by the sciatic nerve. The condition of the paralyzed muscles, as to their electrical reactions, and the presence or absence of the evidences of increased reflex excitability, will depend greatly upon how much damage has been done to the gray matter of the lumbar enlargement. If the gray matter be so destroyed as to impair its function, the reflex movements will be absent; and, if the trophic function of the cord be affected by changes in the ganglion cells of the gray matter, the paralyzed muscles will undergo atrophy. The sense of constriction, or "band feeling," will usually be referred, in this lesion, either to the ankle, leg or thigh.

It will thus be perceived that it is the object of the work to elucidate clinical phenomena, as observed in pathological conditions of the nervous system, through the study of its anatomy and physiology. It is in every sense a practical work, although it does not consider the treatment of nervous affections.

A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL.—In Treatises by Various Authors. Edited by T. Holmes, M. A., Cantab., Surgeon and Lecturer on Surgery at St. George's Hospital, etc. First American, from Second English Edition, Thoroughly Revised and Much Enlarged, by John H. Packard, A. M., M. D., Surgeon to the Episcopal and St. Joseph's Hospitals, Philadelphia. Assisted by a Large Corps of the Most Eminent American Surgeons. In Three Volumes. Vol. I., General Pathology, Morbid Processes, Injuries in General, Complications of Injuries, Injuries of Regions. Large 8vo. Pp. 1007. Philadelphia: Henry C. Lea's Son & Co. Cincinnati:

The first volume of this very magnificent work on surgery is now ready for distribution to subscribers. The remaining two will follow in a short time.

We do not believe we will at all exaggerate to speak

of this work as the most complete and thorough work upon surgery in the English language, emanating as it has, not from one man, but from many men, and the most of these hospital surgeons, and the most eminent of their profession. In consulting it, therefore, the opinions and experiences of the most distinguished surgeons of the world will be learned; for, although they write upon different subjects, yet each one, in discussing the subject allotted to him in a department of science wherein all the subjects composing it dovetail together, necessarily exhibits his mode of thought, type of mind, and manner of viewing the various principles involved, so that it can be conjectured with quite a degree of accuracy how he would view other subjects than those he had written upon. Besides, for instance, when the treatment of various affections is considered, the principles involved being the same in them all, of course the same indications in any disease would be met by the same remedies; and, consequently, when a writer describes his treatment of one affection, he discloses to no little extent what would be his treatment in many others.

The contributors to Vol. I. are John Simon, Dr. J. Burdon Sanderson, Sir James Paget, John Croft, W. S. Savory, Henry Lee, C. H. Moore, H. Arnott, Holmes Coote, Timothy Holmes, Alfred Poland, Geo. W. Callender, Geo. Pollock, J. W. Hulke, Carsten Holthouse, and quite a number of others.

As a work of reference for the practitioner, there is no other work upon surgery its equal. A slight examination makes this evident, for it is seen at once that each subject is treated with a completeness that belongs to a monograph. This has been made possible by having so many writers engaged upon it, nearly every one having had allotted to him the subject of his choice, which, of course, was that with which he was the most familiar, and upon which he was most competent to write. Every point, therefore, in surgery will be found fully treated, and everything known stated in detail. No work having a single author can possibly contain the vast amount of information contained by this "System of Surgery." If differently arranged, it might very properly be termed an Encyclopedia.

The cuts which illustrate the work are numerous and

accurate. Several of them are very beautifully colored to nature, and increase the value of the work.

The work is only sold by subscription, and we understand that the demand is very great. To have the work is really to be in possession of a surgical library.

INDIGESTION, BILIOUSNESS AND GOUT IN ITS PROTEAN ASPECTS.

Part I. Indigestion and Biliousness. By J. Milner Fothergill, M. D., F. R. C. P., London, Physician to the City of London Hospital for Diseases of the Chest, etc. "What is one man's meat is another man's poison." 12mo. Pp. 320. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

Dr. Fothergill is a well-known writer, and his works are held in high estimation. Quite a number of them have been reprinted in this country, and have been very favorably received.

The writer in this work proposes to treat the subject of indigestion in a scientific manner. After stating that the work is written from a physiological standpoint, he proceeds to say that "the history of normal digestion precedes and introduces the subject of indigestion; first in the alimentary canal, then, secondly, in the liver. By such study the management of indigestion, in its various forms, becomes intelligible. Chaos, 'without form and void,' thus becomes 'dry land and waters.'"

There is no doubt, as the author states, but that indigestion at the present day is greatly on the increase. It has sometimes seemed to us that the large majority of adults suffer at times from some of the disturbances brought about by it. What is the cause, we are not prepared just now to state, although the knowledge of it is probably more or less important in the treatment.

The work has twelve chapters and an appendix. In these chapters natural digestion, as of starch, albuminoids, fat, is considered, and then is treated primary digestion. Having finished these, there follows a description of suitable forms of food, artificial digestive ferments, true nutrition, secondary indigestion—neurosal, reflex, cardiac, toxemic, etc. For a lucid, practical description of the physiology of digestion, we think that of our author's is very satisfactory; and in a thorough knowledge of it depends, undoubtedly, in great part, our knowledge of how to treat the derangements resulting from indigestion.

After considering the various disturbances of the functions of the stomach, the normal processes of the liver are studied, and then are considered the phenomena which proceed from its derangement.

But without entering upon a detailed description of the work—for, although it might be interesting, we have not the space—we will say that the reader will find “Indigestion, Biliousness and Gout in its Protean Aspects” scientifically and lucidly treated—treated in a far more satisfactory manner than is usually the case. Considering to how great an extent these maladies prevail, and how difficult they are to manage—the physician being often put to his wit’s end for remedies from which there is any prospect of obtaining relief—a work by so eminent an author as Dr. Fothergill, embodying his very large experience, is certainly worthy attention and study. We feel quite sure that if well studied, that the improved treatment, which would result from the increased knowledge of the ailments of digestion, would take away no little of the stigma which has become attached to physicians in consequence of the prevalent notion of their being unable to afford sufferers of dyspepsia any relief.

LECTURES ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CHEST, THROAT AND NASAL CAVITIES.—By E. Fletcher Ingals, A. M., M. D., Lecturer on Diseases of the Throat and Chest in the Rush Medical College, Chicago, etc. With 135 Illustrations. 8vo. Pp. 437. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

We feel quite sure that physicians and students will value this work very highly indeed. It undoubtedly fills a real want, in that it presents a complete exposition of the subject of physical diagnosis, so far as it relates to diseases of the chest, throat and nasal passages; it gives the essential symptoms of each disease; it points out the symptoms and signs which are of most value in a differential diagnosis, and outlines briefly the proper treatment for the various affections.

It is certainly much more satisfactory to have taught in the same work, where they are considered together, the various signs and symptoms of diseases of the lungs, heart and throat, and the mode of detecting them, as disclosed by physical diagnosis, than to be compelled to study them in separate volumes. There are many works on physical

diagnosis that are regarded works of value, and are in great demand by students; but the difficulty and inconvenience in studying them can be easily imagined when it is recollected that the principles laid down in them must find their exemplification in another work by another author, who treats of the diseases to which physical diagnosis is applicable.

Prof. Ingals, in the preparation of this work, has availed himself of every source of information at his command, and has overlooked nothing which would be of value to the student or practitioner. It will be found a complete treatise on the subjects of which it treats—treating them in a learned, masterly manner.

Physical diagnosis is set forth in this work more clearly than in any work with which we have ever met.

THE PRESCRIBER'S MEMORANDA.—18mo. Pp. 301. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

This little work is not made up of a vast number of prescriptions with but little reference to classification, as is sometimes the case. On the contrary, the prescriptions are classed under various diseases, the indications of which they are likely to meet. In many instances explanations of the symptoms attend. As an illustration of the scope of the work, under the head of Asthma there are some remarks in regard to the characteristic symptoms of the affection, and then a number of prescriptions follow, as employed by different eminent physicians. On page 31 is one of Dr. Bartholow as follows:

R_y Tinct. Lobeliæ, ʒj.
 Ammon. Iodid., ʒij.
 Ammon. Bromid., ʒiij.
 Syr. Tolutan, ʒiij.

SIG.—A tea-spoonful every one, two, three or four hours.

"It gives relief in a few minutes, which is often permanent."

Young physicians will often find it of value for reference. We believe the price is about fifty cents.

COULSON ON THE DISEASES OF THE BLADDER AND PROSTATE GLAND.—Sixth Edition. Revised by Walter J. Coulson, F. R. C. S., Surgeon to St. Peter's Hospital for Stone, etc., and Surgeon to the Lock Hospital. 8vo. Pp. 392. New York: Wm. Wood & Co.

This work is one of the numbers of "Wood's Library of Standard Medical Authors" for 1881.

It is a work, the value of which has certainly been well indorsed by the profession, by there having been six editions called for. The subscribers for the *Library* for 1881 will surely obtain far more than the value of their money in this volume. Since the publication of the fifth edition, nearly all of the chapters have been rewritten, and several additions have been made to their number.

All physicians are aware how numerous are cases of diseases of the bladder and prostate gland, and how difficult many of them are to treat. Under such circumstances, a work devoted entirely to their consideration, in which is embodied the whole of the experience of the profession in their treatment, must be regarded as a valuable contribution to medical literature. It is impossible for the ordinary works upon surgery to give even an outline of the information contained in this volume, and which is essential to an intelligent treatment of vesical and prostate affections.

GENERAL MEDICAL CHEMISTRY FOR THE USE OF PRACTITIONERS OF MEDICINE.—By R. A. Witthaus, A. M., M. D., Professor in the University of Vermont, and Professor of Physiological Chemistry in the Medical Department of the University of the City of New York, etc. 8vo. Pp. 443. New York: Wm. Wood & Co. Cincinnati: R. Clarke & Co.

This volume, also, is one of the numbers making up "*Wood's Library of Standard Medical Authors*" for 1881, which we have frequently described.

As the title shows, this work upon chemistry is designed for medical practitioners. Having treated of technical processes, the bearings of chemistry upon physiology, hygiene, therapeutics and toxicology are fully set forth.

As the work is by a well-known American chemist, himself a physician, it will receive a cordial reception, and become a standard work. "*Wood's Library*" is fortunate in having it in its series. It is printed in solid brevier type, easily read. If printed in the same size type that medical books usually are, it would contain over 600 pages.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

DEATH OF PRESIDENT GARFIELD.—Before receiving this number of the **MEDICAL NEWS** our readers will have learned of the decease of the President of the United States, an event which has brought the greatest grief upon the whole country. And not only do the people of this great nation lament the untimely end of the chief magistrate, but those of every civilized government of the world are affected with the deepest sympathy. Immediately upon the flashing of the news from country to country that the President had died, the hearts of all the nations throbbed with sorrow. Even far away Turkey was moved, and despotic Russia has sent us words of condolence. So soon as sufficient time has elapsed to hear from them, there is reason to believe that we will learn of expressions of pity from even the barbarous people who are not savage, as those of Japan, China and others.

If it were possible for anything to ameliorate the great calamity our country has received in the cutting off of

the chief magistrate by the hand of a miserable assassin, almost just as he had assumed the helm of state, it would be this sublime exhibition of humanity which has been witnessed as the result. Never before has there been such an opportunity for its display and proof of its existence. There has been before murders of rulers, and expressions of sympathy passed between nations in consequence of bereavements following. But in no instance has an event ever occurred calling forth the higher feelings of the heart of the people of all the civilized nations of the world, and attended with so sublime a manifestation of them—proving that there is in man a humanity for man, and a feeling of brotherhood for his fellow-creature existing everywhere.

There is, undoubtedly, a vast amount of sin and selfishness existing in the human heart, and often displays of sickening inhumanity are seen in men; yet now and then there loom up signs of virtue, proving that there is a substratum of goodness in human nature, and that not everything in man is corrupt.

While the President was suffering from the wound inflicted by the assassin, Guiteau, physicians, as other citizens, were exceedingly anxious for his recovery, studying the symptoms, so far as disclosed by the bulletins, with intense eagerness—often hoping he would recover when the surgeons gave encouragement, yet wondering how he could, when they observed the constant frequency of the pulse, never numbering less than 98 pulsations a minute, oftener 100, 102 and 104, and not unfrequently reaching 110, 115, 120 and 130, with fever every day from the beginning. We never knew a patient to gain strength under such circumstances,* although he might live a long time, feeding on his own tissues if he had a good deal to spare.

We have all confidence in the skillful management of the case by the distinguished medical gentlemen who had the President in charge. There are no more competent surgeons in the world than Drs. Hamilton, Agnew, Woodward, Barnes, etc. It sometimes seemed to us that the probe was too frequently made use of, exposing the patient to unnecessary irritation, and interfering with any healing processes, if the probe had been passed along the channel

*It was often announced in the bulletins that the President was gaining strength.

made by the ball, which turned out not to have been the case.

As all our readers may not have had an opportunity of seeing it, and that it may be convenient for reference to all, we append an account of the autopsy. We think it will be the general conclusion that a fatal result of the wound was inevitable.

AUTOPSY.

By previous arrangement the post mortem examination of the body of President Garfield was made this afternoon, September 20th, in the presence and with the assistance of Drs. Hamilton, Agnew, Bliss, Barnes, Woodward, Reyburn, Andrew H. Smith, of Elberon, and Acting Assistant Surgeon D. S. Lamb, of the Army Medical Museum, Washington. The operation was performed by Dr. Lamb. It was found that the ball, after fracturing the right eleventh rib, had passed through the spinal column, in front of the spinal canal, fracturing the body of the first lumbar vertebræ, driving a number of small fragments of bone into the adjacent soft parts, and lodging just below the pancreas, about two inches and a half to the left of the spine and behind the peritoneum, where it had become completely encysted. The immediate cause of death was secondary hemorrhage from one of the mesenteric arteries adjoining the track of the ball, the blood rupturing the peritoneum, and nearly a pint escaping into the abdominal cavity. This hemorrhage is believed to have been the cause of the severe pain in the lower part of the chest complained of just before death. An abscess cavity, six inches by four in dimensions, was found in the vicinity of the gall bladder, between the liver and the transverse colon, which were strongly inter-adherent. It did not involve the substance of the liver, and no communication was found between it and the wound. A long, suppurating channel extended from the external wound between the loin muscles and the right kidney, almost to the right groin. The channel, now known to be due to the burrowing of the pus from the wound, was supposed during life to have been the track of the ball. On examination of the organs of the chest, evidences of severe bronchitis were found on both sides, with bronchial pneumonia of the lower portions of the right lung and, though to much less extent, of the left. The lungs contained no abscesses and the heart no clots. The liver was enlarged and fatty, but free from abscesses, nor were any found in any other organ except the left kidney, which contained near its surface a small abscess about one-third of an inch in diameter. In reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces, and especially the fractured, spongy tissue of the vertebræ, furnish sufficient explanation of septic condition which existed.

[Signed]

D. W. BLISS,
J. J. WOODWARD,
FRANK H. HAMILTON,
ANDREW H. SMITH.

J. K. BARNES,
ROBT. REYBURN,
D. HAYES AGNEW,
D. S. LAMB.

After the autopsy, Dr. Hamilton made some statements of facts to a *Tribune* reporter, from which we make a few selections:

The blood sac was behind the peritoneum, but the autopsy revealed that it had ruptured into the cavity of the peritoneum, probably just before the occurrence of death, and at least a pint of blood, coagulated, was found in the peritoneal cavity. The abscess spoken of in the official report of the

autopsy was not in this region precisely, but somewhat more to the right, between the liver and transverse colon. No connection was discovered between this and the external wound made by the bullet, and there are no means of knowing whether it communicated with the original track at some earlier period in the history of the case or not.

It may have done so, and become subsequently closed, or it may have been the result of the extension of inflammation from the original track to the adjacent tissues. There was no lesion of the liver, recent or ancient, indicated in the autopsy.

It is evident from this account that the presence of the ball in the situation in which it was found was not the immediate cause of death, as it was completely encysted, and must have long since ceased to cause irritation. The small fragments of bone and the great lesion of the lumbar vertebra are the pathological facts which alone could endanger the patient's life. This lesion of the vertebra the surgeons had no means of repairing, nor could it have been repaired, save by the processes of nature.

The small fragments of bone, widely disseminated in the adjacent tissues, certainly could not have been removed by any surgical operation.

* * * * *

There were no possible means of knowing the situation of the ball during life, as it gave no indication of its presence, nor could it possibly have been reached and recognized by any form of surgical probe. That death would have been the immediate and the inevitable result of any attempt at removing the ball is almost absolutely certain.

However much we individually or collectively may have made ourselves liable to just criticism in the matter of the diagnosis or prognosis, and whatever doubts may be entertained by medical men as to the propriety of the treatment in certain respects, I can not believe that one intelligent surgeon will hereafter think that at any period in the progress of the case the ball or the fragments of bone which it sent before it could have been successfully removed, nor, indeed, that any serious attempt in that direction would not have resulted in speedy death. Viewing the case in the light of our present knowledge, I am prepared to affirm that surgery has no resources by which the fatal result could have been averted. This was the sad consolation which I felt justified in giving to the grief-stricken wife and family, and which all my associates believe they can give to an afflicted people.

Question of the Autopsy.—Since the above has been in type we have come across the following:

Dr. Schrad, upon invitation of the consulting surgeons of the late President, visited the Army Medical Museum to-day, for the purpose of examining the anatomical specimens preserved after the autopsy. These consist of the fractured vertebra, the broken eleventh rib, and all the organs affected by the wound. The vertebra has been cleaned carefully, and will be mounted and preserved, as was that of Wilkes Booth. The viscera is preserved in alcohol. Dr. Schrad was accompanied by Prof. Weisz, of the University of New York, whose pistol practice on cadavers in July last, for the purpose of discovering the probable course of the ball, attracted so much attention.

They were invited to inspect the drawings which are being made to accompany the detailed statement of the autopsy, which will be published and signed by all the surgeons. This report is the work of Dr. Woodward, U. S. A. Careful comparisons and verifications of the statement of the record and its drawings with the viscera and injured bones were made in order that there shall be an opportunity of intelligent discussion and to prevent all captious criticism.

The viscera was found to be perfectly preserved, and was in as good con-

dition of dissection as when first taken from the body. The lungs, liver, kidneys, pancreas, gall bladder and colon are there, and show the effects of the injuries from the passage of the ball, the suppuration surfaces, the abscesses, the pus gatherings, and ruptured mesenteric artery. The most interesting specimen was the encysted bed of the ball, into which the ball was fitted to-day.

The conclusions of Dr. Schrody and Prof. Weisz are that great skill and care have been displayed in the preservation of the parts, and that the statements of the bulletins publishing the first accounts of the autopsy were absolutely correct, and that nothing has been concealed.

Dr. Schrody and Prof. Weisz were among those outside surgeons who believed that the President would recover, the opinion, of course, being founded upon the diagnosis of the case as it existed before the revelation of the autopsy. They now think that there never was a chance of recovery, and that the fact that the patient survived for eighty days is astonishing in a medical point of view.

The statement to be published here alluded to is not the full official history of the case, but relates only to the autopsy. The former will not be ready before December, and will be published by the Surgeon General's Department of the army.

REMARKABLE RESULTS OF EXPERIMENTS UPON THE BRAINS OF ANIMALS.—Our readers are aware that the International Medical Congress is in session at this time in London. It seems that the meeting is a great success. Medical men are present from every part of the globe.

The *Lancet*, which is published weekly, and whose pages are almost quarto size, devotes a large portion of the space of each of its numbers to the publication of the discussions. In its issue of August 20, it prints Professors Goltz's and Ferrier's accounts of the results of their cutting away the greater parts of the cerebra of animals. It seems that the results respectively varied very greatly, indeed to an extent difficult to altogether explain.

Prof. Goltz stated that he commenced experiments six years ago, in which he sought to determine what degree of truth attached to the assertion of Flourens, that large parts of the brain of living animals may be removed without there resulting any apparent loss of cerebral function. He explained his method as consisting of exposing the surface of the brain, and then washing away large portions of its substance by subjecting it to the action of a powerful stream of water. It was found that the statement of Flourens could not be accepted without reservation. After the destruction in the way indicated of large parts of one side of the brain, there results, for instance, hemiplegia, which is, however, not permanent but transient, with cross blindness. After destruction of large parts of both

hemispheres by the same method, Goltz found that there was produced a permanent affection of the senses, which were observed to be dulled to an extraordinary degree, without being, however, lost. During the last two years, Prof. Goltz, abandoning his earlier "washing-away" method, has destroyed limited parts of the cerebral surface by means of circular drills with cutting and tearing edges, which, when rapidly rotated, destroy the part of the brain in which they are placed. By removing large parts of the skull cap, and using such instruments, Prof. Goltz has produced either very localized or very extensive lesions, of which he has studied the results; the dog being invariably the animal chosen for experiment. The results differed according as the anterior or posterior halves of the upper surface of the convolutions were destroyed. Without referring in detail to various experiments of Prof. Goltz's, we have to draw special attention to his remarkable assertion that in the dog, after removal by his procedure of the greater part of the grey matter of the hemispheres, of the motor areas, and of the sensory areas, the animal may recover and live for long periods of time, without exhibiting any definite paralysis whatever. Such a dog, according to Prof. Goltz, can see, taste, smell, feel, yet all these senses are dulled. It can move, yet its movements are clumsy. It has none of the paralysis of movement, and none of the losses of special senses, which the doctrines of Ferrier and of Munk would lead us to predict. Though the animal is not stone blind, and can see, hear, and feel in a certain manner, yet perception is greatly interfered with and the intellectual functions are weakened. The dog is in a condition of one demented, and many of its instincts are found to be perverted.

Prof. Goltz having sat down, Prof. Ferrier succeeded him. He said that until it is proved that the phenomena observed by Prof. Goltz are dependent upon the grey matter of the hemispheres, it may be assumed that they are phenomena which require, in the case of the dog, merely the integrity of the great basal ganglion. He called the attention of the section to the fact that Prof. Goltz's experiments had been performed entirely on dogs, and he deprecated the drawing of general conclusions from the experiments performed upon one animal species. Without disputing the facts described by Prof. Goltz, he would bring before the section other facts observed by

himself in the case of the monkey, and which entirely corroborated his own views in reference to cerebral localization. Prof. Ferrier pointed out that by Prof. Goltz's method a simple and definite lesion could not be established. During the last two years, however, he, in association with Prof. Gerald Yeo, had employed the galvanocautery for the establishment of perfectly definite lesions, and by using the antiseptic method of treating the wound had succeeded in eliminating all chances of inflammation and obtaining a perfect recovery from the actual operative procedure in almost every case. He had thus been able to meet the objections which had been advanced to his earlier experiments—to wit, that he studied for too short a time the effects of the lesions produced, and he had been able to observe that definite lesions of localized regions of the surface of the monkey's brain led to definite and persistent paralysis of motion or losses of special senses. Prof. Ferrier then referred in detail to several of his experiments on monkeys, pointing out that in two of the cases where injuries of motor areas had been inflicted, not only was there no recovery, but that when, some months afterward, post-mortem examinations were made, there were found descending degenerations affecting the *crus cerebri*, the pons, and the spinal cord. In a case where a lesion was inflicted upon both occipital lobes and angular gyri, affecting the supposed centers for vision, there had resulted no paralysis of motion, no loss of smell or hearing or taste, but the animal became stone blind; its pupils became widely dilated and fixed, and atrophy of the optic nerve ensued.

The interests attaching to the discussion on localization was greatly enhanced by the fact that whilst Prof. Goltz had brought one of his dogs from Strasburg, Prof. Ferrier was willing to exhibit two monkeys which he had operated upon some months previously, and in one of which he had procured definite motor paralysis and in the other permanent and absolute deafness. On the afternoon of Thursday the section, joined by such visitors as Profs. Charcot and Virchow, adjourned to the Physiological Laboratory of King's College. They had the opportunity of examining the dog in which Prof. Goltz asserted that he had removed the greater part of both hemispheres, including all the supposed motor and sensory areas. That the operative procedures to which the animal had been subjected

had been extensive was quite obvious from an examination of its skull, large gaps in the continuity of the upper and external walls of which were felt. Saving some clumsiness in its movements, this dog exhibited singularly little which would distinguish it from the normal; it appeared possessed of considerable intelligence, and certainly did not suggest to the onlookers that it was a dog demented. In startling contrast to the dog were two monkeys exhibited by Prof. Ferrier. One of them had been operated upon in the middle of January, the left motor area having been destroyed. There had resulted from the operation right-sided hemiplegia, with conjugate deviation of eyes and of head. Facial paralysis was at first well marked, but ceased after a fortnight. From the first there had been paralysis of the right leg, though the animal was able to lift it up. The arm it had never been able to use. Lately, rigidity of the muscles of the paralyzed limbs had been coming on. The other monkey, as a consequence of paralysis of its auditory centers, was apparently entirely unaffected by loud noises, as by the firing of percussion caps in close proximity to its head. What conclusions, it will be asked, are to be drawn from these singularly discordant experiments of Prof. Goltz and Ferrier? As a result of their statements and their demonstrations, are we merely to conclude that the brain of the monkey is constituted differently from that of the dog, and that experiments performed upon the brain of one animal throw no light upon the functions of the brain of the other? Until we know the exact conditions of the experiments in the two cases, it will be impossible to analyze the results obtained, which may be explicable rather by the extent or depth of the lesions inflicted in the two cases than by the hypothesis of a different anatomical conformation. Fortunately the two eminent experimenters, whose graphic accounts of their work had been listened to with marked interest by the section, determined upon a line of conduct destined to throw great light upon their experimental procedures. On one of the days following the discussion and demonstration on cerebral localization Prof. Goltz's dog and Prof. Ferrier's monkey with motor paralysis was deeply anæsthetized, and then killed. The brains were removed, and were handed to a committee composed of Drs. Klein, Langley, Purser, and Schafer, who have been requested to make an elaborate

anatomical and histological examination, with a view to localizing the extent of the lesions inflicted by the experimenters. It may be remarked, however, that when the brains which had been removed from the two animals were exhibited in the Physiological Section, it appeared to the onlookers that the lesions in Prof. Ferrier's case exactly corresponded to that which he had predicted; whilst, unquestionably, in Prof. Goltz's experiment the experimenter had failed in removing considerable portions of the grey matter of the convolutions, including parts at least held by Ferrier to be the seat of motor centers.

LISTERISM.—It is remarkable that an operation which is nothing more than the simple application of a scientific fact to surgical practice, should be called by a man's name. But such seems to be the case; and the operation, we presume, will continue to bear the name that has become attached to it, although the gentleman to whom it belongs had nothing to do with the discovery of the principle involved.

Pasteur, as all know, has demonstrated that putrefaction can not take place, except by the presence of bacterial germs floating in the air. It is a fermentation analogous to that which takes place in sugar, owing to the presence of the yeast plant. In the present number of the *MEDICAL NEWS* there is an article by Prof. Taylor, of Washington, in which it is shown that it is through bacteriæ that organic bodies of all kinds are reduced to their original chemical elements. Consequently, without these microscopic germs, there would not be that process of "earth to earth and dust to dust," for, although life had departed from an organic body, its organization would still continue. It will be seen, consequently, to digress a little, that these most minute beings play a most important part in nature by their mere presence--exciting those great chemical forces into activity, which are all the time in action, and are necessary for so many great purposes, and yet do not themselves enter into the chemical process.

But to proceed to the subject of *Listerism* after these prefatory remarks: The design of the method is to destroy any germs that may be in contact with a wound, or the body upon which a wound is to be made, absolutely to prevent the deposit of these organisms during the operation, and to exclude them during the process of repair.

"This is secured by performing every step of the operation under a spray, from an atomizer, of a solution of carbolic acid, and by dressing the wound resulting with carbolized dressings—chief among which is the carbolized gauze—in such a manner as to prevent the entrance of the micro-germs. These, with perfect drainage, are the objects aimed at by the Listerian method." In his improved method, Prof. Lister employs two solutions of carbolic acid: one a five per cent., or one-twenty solution; and the other a two and a half per cent., or one-forty solution.

We are told that all the instruments, needles and sponges to be used in a surgical operation are immersed in the one-twenty solution. The atomizer is put into operation so as to throw a spray of the one-twenty solution over the site of the operation—the patient is then anesthetized—an attendant hands the surgeon a basin of the one-twenty, with which he sprays the surface of the thigh, and from the same lotion he wrings two towels to encircle the limb above and below the seat of the operation.

The surgeon and his assistants cleanse their hands in the one-twenty. As the operation proceeds, the sponges are cleansed in the one-forty solution, being wrung out and used; or, if several be needed, a supply may be kept on the towels encircling the limb.

Bleeding vessels are secured by carbolized catgut, and cut short. Perfect drainage is a cardinal feature of the antiseptic system.

Now, all this proceeding is to destroy any microscopic germs that may come in contact with the wound, in consequence of its exposure to the air. It is a well-known fact that wounds that take place inside of the integuments, recover much more rapidly than exposed wounds. Take, for instance, a simple fracture. Here occur severe contusions and laceration of the soft parts, and blood and serum are effused in addition to the breaking of the osseous structure, but owing to the unbroken integument, recovery takes place without constitutional disturbance—the blood is absorbed, the mangled tissues are either absorbed or united by the healing process, and recovery is similar, if not identical, to that which takes place in healing of incised wounds by first intention. There is no serious inflammation, no formation of pus, no blood poisoning.

How different is the case when there is a laceration of

the integument and the fracture compound! Here all the conditions may be identical with those in the first case cited, with the single exception of a slight rent of the skin covering the part. No one having had experience in treating a compound fracture, needs to be reminded of the long and tedious recovery, the profuse suppuration, the exhaustion, tending to hectic, the dangers of blood poisoning, and the too frequently unsatisfactory recovery, if recovery takes place at all, that rewards the surgeon's best endeavor—and all because of a single tear in the integumentary structure covering the seat of fracture.

Evidently the air, or something contained in it, has a very noxious influence upon wounds. But there is reason to believe that the air itself is innocuous, and that the deleterious effects which follow the exposure of wounds, come from the bacterial germs contained in the atmosphere, which promotes the putrefaction of fluids and tissues of wounds, with the long train of evils that necessarily result therefrom.

By means of *Listerism* the bacterial germs are gotten rid of; and the wound afforded, in consequence, the same opportunities of recovery as wounds that have occurred within the integuments.

We have recently received a pamphlet made up of an essay on "Antiseptic Surgery," read before the Luzerne County Medical Society, by Geo. W. Guthrie, M. D., of Wilkes Barre, Pa. To this we are immediately indebted for the facts we have presented in regard to *Listerism*, which the author himself seems to have gleaned from Holmes' System of Surgery. While he seems to have much confidence in *Listerism* himself, yet he quotes from a number of surgeons who seem to be of the impression, that operations will succeed about as well if strict cleanliness be observed under all of the circumstances, as they would when every minute detail directed by Mr. Lister is carefully carried out. An exception to this, however, Dr. Guthrie thinks should be in cases of ovariectomy, and in regard to it he quotes Sir James Paget, who says: "But there are some groups of cases, in which I believe it would be absolutely wrong to dispense with any of the precautions of the complete *antiseptic surgery*." Paget also includes all abdominal sections, osteotomy, and cutting into healthy joints.

We learn from the pamphlet that Sir Paget has written

thus: "A few years ago, I believed that I had never seen a patient recover after the opening of a psoas, or lumbar abscess with a free incision. I could not remember one who had not died before the opened abscess healed. Of late years, I have known such abscesses opened with complete impunity under antiseptic treatment, and there has seemed nothing but this treatment to account for the difference of results."

Mr. MacNamara has given his experience with the treatment in a large Calcutta hospital where, in spite of the most careful dressings, it was almost impossible to preserve patients from pyemia. The adoption of Listerism was followed by "the very best results."

Dr. Guthrie, in summing up his essay, remarks as follows: "This, it seems to me, is the crowning glory of Listerism. When every nook, and crevice, and cranny of the hospital ward is a nidus for the germs of disease, where the pestilence that walketh in darkness and the destruction that wasteth by noonday, meets the surgeon wherever he turns—it is then that the antiseptic method is a strong tower and a rock of defense to both the surgeon and his patient, enabling them successfully to conquer an invisible and terrible enemy."

The discovery of the effects of bacterial germs upon wounds, whether made by the surgeon or the result of accident, we think should rank among the greatest discoveries. Surgery has been greatly advanced by it.

EXHIBITION OF MICROSCOPES.—At the recent meeting of the *American Association for the Advancement of Science*, held in Cincinnati, there was quite a display of microscopes, as we have before intimated—R. & J. Beck, of London and Philadelphia, Messrs. Bausch & Lomb, of Rochester, N. Y., W. H. Bulloch, of Chicago, and several other manufacturers exhibiting. Dr. J. A. Thacker, of Cincinnati, made an exhibition of his private collection of stands, lenses and accessories generally. He has, probably, the largest collection of any private individual in the country. He has among other things fifty or sixty lenses, made for him by the most eminent makers of this country and Europe.

The palm, undoubtedly, belongs to R. & J. Beck of manufacturing the best and greatest variety of microscopes. Their *International*, undoubtedly, can not be

excelled in its adaptation for all the purposes which the professional microscopist may need for the widest range of investigation. All improvements which the experience of microscopists to the present time have suggested are combined in it. We have not space to give a detailed description of it. Suffice it to say that it is a grand instrument, not excelled by any made by any manufacturer in the world. The price of it, binocular, without any objectives, or other accessory apparatus except several eyepieces, is \$325. Any one seeing it, and witnessing its beautiful appearance and splendid finish, and perfect adaptation to all its purposes, can not help but regard it as very cheap at this price.

But Messrs. R. & J. Beck make a number of other instruments at a much less price, suitable for all the purposes of scientific investigation. Among them is the "Smaller International," which, like the large one, may be had either binocular or monocular; the "Ideal;" the "Popular;" the "Economic," of which there are a number of varieties; the "New National;" the "Histological." The price of the last mentioned, magnifying between 200 and 300 diameters, is only \$25. With a one inch objective added, a quarter inch belonging to it, the price is \$32, and thus fitted out it will be found a very serviceable instrument. But one of the varieties of the Economic, which range in price from \$40 to \$85, will be found much superior. The Economics exceed any microscopes for cheapness and efficiency with which we have any knowledge. The cheapest form, at \$40, is competent for a wide range of work. Indeed, we can scarcely call to mind any investigations a physician might wish to make, he could not accomplish with it. It is supplied with an inch and a quarter inch objectives, of the same quality as the other varieties of the Economics, and as also are the "Ideal" and "New National," and, like them, higher powers, as an eighth or fifteenth, for its fine adjustment is very delicate, can be added at any time—the first costing \$20, the other \$30. The quarter inch lens easily resolves *p. angulatum*, which, only a few years ago, was regarded as a difficult test for the finest lenses.

But we must wait until another time to describe further Beck's various microscopes, and the various classes of objectives made by them.

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ORIGINAL CONTRIBUTIONS.

International Medical Congress, 1881.

OPENING ADDRESS BY THE PRESIDENT, SIR JAMES PAGET, BART.*

It is not necessary to defend the meeting of an International Congress. Such meetings have become one of the general customs of our time, and have thus given evidence that they are generally approved. Let me rather suggest to you some thoughts as to the work which, being in Congress, we have to do, and the spirit in which it may best be done, so that the good effects of our meeting may last long after our parting.

In the largest view of our design, it may seem to be that of bringing together a multitude of various minds for the promotion and diffusion of knowledge in the whole science and art of medicine, in their widest range, in all their narrowest divisions, in all their manifold utilities. And this design, I can not doubt, will be fulfilled; for, although the programme tells of selected subjects for discussion, and defines the order of our work, yet knowledge will be promoted in a much wider range in the meetings without order, which will be held every day and everywhere—meetings of men with all kinds of mental power, and all forms of knowledge and of skill; every one ready alike to impart and to acquire knowledge.

It is safe to say that in the casual conversations of this coming week there will be a larger interchange and diffusion of information than in any equal time and space in the whole past history of medicine. And with this inter-

*Delivered August 3, 1881.

change will be a larger increase, for in the mart of knowledge he that receives gains, and he that gives retains, and none suffer loss.

The increase will be the greater, because of the great variety of minds which will meet. As I look round this hall, my admiration is moved not only by the number and total power of the minds which are here, but by their diversity; a diversity in which I believe they fairly represent the whole of those who are engaged in the cultivation of our science. For here are minds representing the distinctive characters of all the most gifted and most educated nations; characters still distinctly national, in spite of the constantly increasing intercourse of the nations. And from many of these nations we have both elder and younger men; thoughtful men and practical; men of fact and men of imagination; some confident, some skeptic; various, also, in education, in purpose and mode of study, in disposition and in power. And scarcely less various are the places and all the circumstances in which those who are here have collected and have been using their knowledge. For I think that our calling is pre-eminent in its range of opportunities for scientific study. It is not only that the pure science of human life may match with the largest of the natural sciences in the complexity of its subject-matter; not only that the living human body is, in both its material and its indwelling forces, the most complex thing yet known; but that in our practical duties this most complex thing is presented to us in an almost infinite multiplicity. For in practice we are occupied, not with a type and pattern of the human nature, but with all its varieties in all classes of men, of every age and every occupation, in all climates and all social states; we have to study men singly and in multitudes, in poverty and in wealth, in wise and unwise living, in health and all the varieties of disease; and we have to learn, or at least to try to learn, the results of all these conditions of life while, in successive generations and in the mingling of families, they are heaped together, confused, and always changing. In every one of all these conditions man, in mind and body, must be studied by us; and every one of them offers some different problems for inquiry and solution. Wherever our duty, or our scientific curiosity, or, in happy combination, both, may lead us, there are the materials and there the opportunities for separate original research.

Now, from these various opportunities of study, men are here in Congress. Surely, whatever a multitude and diversity of minds can, in a few days, do for the promotion of knowledge, may be done here. Every one has something he may teach, much more that he may learn; and, in the midst of an apparent utter confusion, knowledge will increase and multiply. It has been said, indeed, that truth is more likely to emerge from error than from confusion, and, in some instances, this is true; but much of what we call confusion is only the order of nature not yet discerned; and so it may be here. Certainly, it is from what seems like the confusion of successive meetings such as this that that kind of truth emerges which is among the best moving and directing forces in the scientific as well as in the social life—the truth which is told in the steady growth of general opinion.

But it is not proposed to leave the work of the Congress to what would seem like chances and disorder, good as the result might be; nor yet to the personal influences by which we may all be made fitter for work, though these may be very potent. In the stir and controversy of meetings, such as we shall have, there can not fail to be useful emulation; by the examples that will appear of success in research, many will be moved to more enthusiasm, many to more keen study of the truth; our range of work will be made wider, and we shall gain that greater interest in each other's views, and that clearer apprehension of them, which are always attained by personal acquaintance and by memories of association in pleasure as well as in work. But as it will not be left to chance, so neither will sentiment have to fulfill the chief duties of the Congress.

Following the good example of our predecessors, certain subjects have been selected which will be chiefly, though not exclusively, discussed, and the discussions are to be in the sections into which we shall soon divide.

Of these subjects it would not be for me to speak even if I were competent to do so; unless I may say that they are so numerous and complete that—together with the opening addresses of the Presidents of Sections—they leave me nothing but such generalities as may seem commonplace. They have been selected, after the custom of former meetings, from the most stirring and practical questions of the day; they are those which most occupy men's

minds, and on which there is at this time most reason to expect progress, or even a just decision, from very wide discussion. They will be discussed by those most learned in them, and in many instances by those who have spent months or years in studying them, and who now offer their work for criticism and judgment.

I will only observe that the subjects selected in every section involve questions in the solution of which all the varieties of mind and knowledge of which I have spoken may find their use. For there are questions not only on many subjects, but in all stages of progress toward settlement. In some the chief need seems to be the collection of facts well observed by many persons. I say by many, not only because many facts are wanted, but because in all difficult research it is well that each apparent fact should be observed by many; for things are not what they appear to each one's mind. In that which each man believes that he observes, there is something of himself; and for certainty, even on matters of fact, we often need the agreement of many minds, that the personal element of each may be counteracted. And much more is this necessary in the consideration of the many questions which are to be decided by discussing the several values of admitted facts and of probabilities, and of the conclusions drawn from them. For, on questions such as these minds of all kinds may be well employed. Here there will be occasion even for those which are not unconditionally praiseworthy, such as those that habitually doubt, and those to whom the invention of arguments is more pleasing than the mere search for truth. Nay, we may be able to observe the utility even of error. We may not, indeed, wish for a prevalence of errors; they are not more desirable than are the crime and misery which evoke charity. And yet in a Congress we may palliate them, for we may see how, as we may often read in history, errors, like doubts and contrary pleadings, serve to bring out the truth, to make it express itself in clearest terms and show its whole strength and value. Adversity is an excellent school for truth as well as for virtue.

But that which I would chiefly note, in relation to the great variety of minds which are here, is that it is characteristic of that mental pliancy and readiness for variation which is essential to all scientific progress, and which a great International Congress may illustrate and promote.

In all the subjects for discussion we look for the attainment of some novelty and change in knowledge or belief; and after every such change there must ensue a change in some of the conditions of thinking and of working. Now for all these changes minds need to be pliant and quick to adjust themselves. For all progressive science there must be minds that are young, whatever may be their age.

Just as the discovery of auscultation brought to us the necessity for a refined cultivation of the sense of hearing, which was before of only the same use in medicine as in the common business of life; or, as the employment of the numerical method in estimating the value of facts required that minds should be able to record and think in ways previously unused; or, as the acceptance of the doctrine of evolution has changed the course of thinking in whole departments of science, so is it, in less measure, in every less advance of knowledge. All such advances change the circumstances of the mental life, and minds that can not or will not adjust themselves become less useful, or must, at least, modify their manner of utility. They may continue to be the best defenders of what is true; they may strengthen and expand the truth, and may apply it in practice with all the advantages of experience; they may thus secure the possessions of science and use them well, but they will not increase them.

It is with minds as with living bodies. One of their chief powers is in their self-adjustment to the varying conditions in which they have to live. Generally those species are the strongest and most abiding that can thrive in the widest range of climate and of food. And of all the races of men they are the mightiest and most noble who are, or by self-adjustment can become, most fit for all the new conditions of existence in which by various changes they may be placed. These are they who prosper in great changes of their social state; who, in successive generations, grow stronger by the production of a population so various that some are fitted to each of all the conditions of material and mode of life which they can discover or invent. These are most prosperous in the highest civilization; these whom nature adapts to the products of their own arts.

Or, among other groups, the mightiest are those who are strong alike on land and sea; who can explore and

colonize, and in every climate can replenish the earth and subdue it; and this not by tenacity or mere robustness, but rather by pliancy and the production of varieties fit to abide and increase in all the various conditions of the world around.

Now, it is by no distant analogy that we trace the likeness between these in their successful contests with the material conditions of life and those who are to succeed in the intellectual strife with the difficulties of science and of art. There must be minds which in variety may match with all the varieties of the subject-matters and minds which, at once or in a swift succession, can be adjusted to all the increasing and changing modes of thought and work.

Such are the minds we need; or, rather, such are the minds we have; and these in great meetings prove and augment their worth. Happily the natural increase in the variety of minds in all cultivated races is—whether as cause or as consequence—nearly proportionate to the increasing variety of knowledge. And it has become proverbial, and is nearly true in science and art, as it is in commerce and in national life, that, whatever work is to be done, men are found or soon produced who are exactly fit to do it.

But it need not be denied that, in possession of this first and chiefest power for the increase of knowledge, there is a source of weakness. In works done by dissimilar and independent minds, dispersed in different fields of study, or only gathered into self-assorted groups, there is apt to be discord and great waste of power. There is, therefore, need that the workers should from time to time be brought to some consent and unity of purpose; that they should have opportunity for conference and mutual criticism, for mutual help and the tests of free discussion. This it is which, on the largest scale and most effectually, our Congress may achieve; not, indeed, by striving after a useless and happily impossible uniformity of mind or method, but by diminishing the lesser evil of waste and discord which is attached to the far greater good of diversity and independence. Now, as in numbers and variety the Congress may represent the whole multitude of workers everywhere dispersed, so in its gathering and concord it may represent a common consent that, though we may be far apart and different, yet our work is and shall be

essentially one; in all its parts mutually dependent, mutually helpful, in no part complete or self-sufficient. We may thus declare that as we who are many are met to be members of one body, so "our work for science shall be one though manifold; that as we, who are of many nations, will, for a time, forget our nationalities, and will even repress our patriotism, unless for the promotion of a friendly rivalry, so will we in our work, whether here and now, or everywhere and always, have one end and one design—the promotion of the whole science and whole art of healing.

It may seem to be a denial of this declaration of unity that after this general meeting we shall separate into sections more numerous than in any former Congress. Let me speak of these sections to defend them; for some maintain that even in such a division of studies as these may encourage, there is a mischievous dispersion of forces. The science of medicine, which used to be praised as one and indivisible, is broken up, they say, among specialists, who work in conflict rather than in concert, and with mutual distrust more than mutual help.

But let it be observed that the sections which we have instituted are only some of those which are already recognized in many countries, in separate societies, each of which has its own place and rules of self-government and its own literature. And the division has taken place naturally in the course of events which could not be hindered. For the partial separation of medicine, first from the other natural sciences, and now into sections of its own, has been due to the increase of knowledge being far greater than the increase of individual mental power.

I do not doubt that the average mental power constantly increases in the successive generations of all well-trained people, but it does not increase so fast as knowledge does, and thus, in every science, as well as in our own, a small portion of the whole sum of knowledge has become as much as even a large mind can hold and duly cultivate. Many of us must, for practical life, have a fair acquaintance with many parts of our science, but none can hold it all; and for complete knowledge, or for research, or for safely thinking out beyond what is known, no one can hope for success unless by limiting himself within the few divisions of the science for which, by nature or by education, he is best fitted. Thus our divisions into sections is

only an instance of that division of labor which, in every prosperous nation, we see in every field of active life, and which is always justified by more work better done.

Moreover, it can not be said that in any of our sections there is not enough for a full strong mind to do. If any one will doubt this, let him try his own strength in the discussions of several of them.

In truth, the fault of specialism is not in narrowness, but in the shallowness and the belief in self-sufficiency with which it is apt to be associated. If the field of any specialty in science be narrow, it can be dug deeply. In science, as in mining, a very narrow shaft, if only it be carried deep enough, may reach the richest stores of wealth and find use for all the appliances of scientific art. Not in medicine alone, but in every department of knowledge, some of the grandest results of research and of learning, broad and deep, are to be found in monographs on subjects that, to the common mind, seemed small and trivial.

And study in a Congress such as this may be a useful remedy for self-sufficiency. Here every group may find a rare occasion, not only for an opportune assertion of the supreme excellence of its own range and mode of study, but for the observation of the work of every other. Each section may show that its own facts must be deemed sure, and that by them every suggestion from without must be tested; but each may learn to doubt every inference of its own which is not consistent with the facts or reasonable beliefs of others; each may observe how much there is in the knowledge of others which should be mingled with its own; and the sum of all may be the wholesome conviction of all that we can not justly estimate the value of a doctrine in one part of our science till it has been tried in many or in all.

We were taught this in our schools; and many of us have taught that all the parts of medical science are necessary to the education of the complete practitioner. In the independence of later life, some of us seem too ready to believe that the parts we severally choose may be self-sufficient, and that what others are learning can not much concern us. A fair study of the whole work of the Congress may convince of the fallacy of this belief. We may see that the test of truth in every part must be in the patient and impartial trial of its adjustment, with what is

true in the other. All perfect organizations bear this test; all parts of the whole body of scientific truth should be tried by it.

Moreover, I would not, for a scientific point of view, admit any estimate of the comparative importance of the several divisions of our science, however widely they may differ in their present utilities. And this I would think right, not only because my office as president binds me to a strict impartiality and to the claim of freedom of research for all, but because we are very imperfect judges of the whole value of any knowledge, or even of single facts. For every fact in science, wherever gathered, has not only a present value, which we may be able to estimate, but a living and germinal power of which none can guess the issue.

It would be difficult to think of anything that seemed less likely to acquire practical utility than those researches of the few naturalists who, from Leeuwenhoeck to Ehrenberg, studied the most minute of living things, the Vibrionidæ. Men boasting themselves as practical might ask, "What good can come of it?" Time and scientific industry have answered, "This good: those researches have given a more true form to one of the most important practical doctrines of organic chemistry; they have introduced a great beneficial change in the most practical part of surgery; they are leading to one as great in the practice of medicine; they concern the highest interests of agriculture, and their power is not yet exhausted."

And as practical men were, in this instance, incompetent judges of the value of scientific facts, so were men of science at fault when they missed the discovery of anæsthetics. Year after year the influences of laughing gas and of ether were shown: the one fell to the level of the wonders displayed by itinerant lecturers, students made fun with the other; they were the merest practical men, men looking for nothing but what might be straightway useful, who made the great discovery which has borne fruit not only in the mitigation of suffering, but in a wide range of physiological science.

The history of science has many similar facts, and they may teach that any man will be both wise and dutiful if he will patiently and thoughtfully do the best he can in the field of work in which, whether by choice or chance, his lot is cast. There let him, at least, search for truth,

reflect on it, and record it accurately; let him imitate that accuracy and completeness of which I think we may boast that we have, in the descriptions of the human body, the highest instance yet attained in any branch of knowledge. Truth so recorded can not remain barren.

In thus speaking of the value of careful observation and records of facts, I seem to be in agreement with the officers of all the sections; for, without any intended consent, they have all proposed such subjects for discussion as can be decided only by well-collected facts and fair direct inductions from them. There are no questions on theories or mere doctrine. This, I am sure, may be ascribed, not to any disregard of the value of good reasoning or of reasonable hypotheses, but partly to the just belief that such things are ill-suited for discussion in large meetings, and partly to the fact that we have no great opponent schools, no great parties named after leaders or leading doctrines about which we are in the habit of disputing. In every section the discussions are to be on definite questions, which, even if they be associated with theory or general doctrines, may yet be soon brought to the test of fact; there is to be no use of doctrinal touchstones.

I am speaking of no science but our own. I do not doubt that in others there is advantage in dogma, or in the guidance of a central organizing power, or in divisions and conflicting parties. But in the medical sciences I believe that the existence of parties founded on dominant theories has always been injurious; a sign of satisfaction with plausible errors, or with knowledge which was even for the time imperfect. Such parties used to exist, and the personal histories of their leaders are some of the most attractive parts of the history of medicine; but, although in some instances an enthusiasm for the master-mind may have stirred a few men to unusual industry, yet very soon the disciples seem to have been fascinated by the distinctive doctrine, content to bear its name, and to cease from active scientific work. The dominance of doctrine has promoted the habit of inference, and repressed that of careful observation and induction. It has encouraged that fallacy to which we are all too prone, that we have at length reached an elevated sure position on which we may rest, and only think and guide. In this way specialism in doctrine or in method of study has hindered the progress of science more than the specialism which

has attached itself to the study of one organ or of one method of practice. This kind of specialism may enslave inferior minds: the specialism of doctrine can enchant into mere dreaming those that should be strong and alert in the work of free research.

I speak the more earnestly of this because it may be said, if our Congress be representative, as it surely is, may we not legislate? May we not declare some general doctrines which may be used as tests and as guides for future study? We had better not.

The best work of our International Congress is in the clearing and strengthening of the knowledge of realities; in bringing, year after year, all its force of numbers and varieties of minds to press forward the demonstration and diffusion of truth as nearly to completion as may from year to year be possible. Thus, chiefly, our Congress may maintain and invigorate the life of our science. And the progress of science must be as that of life. It sounds well to speak of the temple of science and of building and crowning the edifice. But the body of science is not as any dead thing of human work, however beautiful; it is as something living, capable of development and a better growth in every part. For as in all life the attainment of the highest condition is only possible through the timely passing-by of the less good, that it may be replaced by the better, so is it in science. As time passes, that which seemed true and was very good becomes relatively imperfect truth, and the truth more nearly perfect takes its place.

We may read the history of the progress of truth in science as a palæontology. Many things which, as we look far back, appear, like errors, monstrous and uncouth creatures, were, in their time, good and useful, as good as possible. They were the lower and less perfect forms of truth which, amid the floods and stifling atmospheres of error, still survived; and just as each successive condition of the organic world was necessary to the evolution of the next following higher state, so from these were slowly evolved the better forms of truth which we now hold.

This thought of the likeness between the progress of scientific truth and the history of organic life may give us all the better courage in a work which we can not hope to complete, and in which we see continual and sometimes disheartening change. It is, at least, full of comfort to

those of us who are growing old. We that can read in memory the history of half a century might look back with shame and deep regret at the imperfection of our early knowledge if we might not be sure that we held, and sometimes helped onward, the best things that were in their time possible, and that they were necessary steps to the better present, even as the present is to the still better future. Yes, to the far better future; for there is no course of nature more certain than is the upward progress of science. We may seem to move in circles, but they are the circles of a constantly ascending spiral; we may seem to sway from side to side, but it is only as on a steep ascent which must be climbed in zigzag.

What may be the knowledge of the future none can guess. If we could conceive a limit to the total sum of mental power which will be possessed by future multitudes of well-instructed men, yet could we not conceive a limit to the discovery of the properties of materials which they will bend to their service. We may find the limit of the power of our unaided limbs and senses; but we can not guess at a limit to the means by which they may be assisted, or to the invention of instruments which will become only a little more separate from our mental selves than are the outer sense-organs with which we are constructed.

In the certainty of this progress the great question for us is, What shall we contribute to it? It will not be easy to match the recent past. The advance of medical knowledge within one's memory is amazing whether reckoned in the wonders of the science not yet applied, or in practical results in the general lengthening of life, or, which is still better, in the prevention and decrease of pain and misery, and in the increase of working power. I can not count or recount all that in this time has been done; and I suppose there are very few, if any, who can justly tell whether the progress of medicine has been equal to that of any other great branch of knowledge during the same time. I believe it has been; I know that the same rate of progress can not be maintained without the constant and wise work of thousands of good intellects; and the mere maintenance of the same rate is not enough, for the rate of the progress of science should constantly increase. That in the last fifty years was at least twice as great as that in the previous fifty. What will it be in the next,

or, for a more useful question, What shall we contribute to it?

I have no right to prescribe for more than this week. In this let us do heartily the proper work of the Congress, teaching, learning, discussing, looking for new lines for research, planning for mutual help, forming new friendships. It will be hard work if we will do it well; but we have not met for mere amusement or for recreation, though for that I hope you will find provision, and enjoy it the better for the work preceding it.

And when we part let us bear away with us, not only much more knowledge than we came with, but some of the lessons for our conduct in the future which we may learn in reflecting the work of our Congress.

In the number and intensity of the questions brought before us we may see something of our responsibility. If we could gather into thought the amounts of misery or happiness, of helplessness, or of power for work, which may depend on the answers to all the questions that will come before us, this might be a measure of our responsibility. But we can not count it; let us imagine it; we can not even in imagination exaggerate it. Let us bear it always in our mind, and remind ourselves that our responsibility will constantly increase. For, as men become in the best sense better educated, and the influence of scientific knowledge on their moral and social state increases, so, among all sciences there is none of which the influence and, therefore, the responsibility will increase more than ours, because none more intimately concerns man's happiness and working power.

But, more clearly in the recollection of the Congress, we may be reminded that in our science there may be, or, rather, there really is, a complete community of interest among men of all nations. On all the questions before us we can differ, discuss, dispute, and stand in earnest rivalry; but all consistently with friendship, all with readiness to wait patiently till more knowledge shall decide which is in the right. Let us resolutely hold to this when we are apart; let our internationality be a clear abiding sentiment, to be, as now, declared and celebrated at appointed times, but never to be forgotten; we may, perhaps, help to gain a new honor for science, if we thus suggest that in many more things, if they were as deeply and dispassionately studied, there might be found the

same complete identity of international interests as in ours.

And then, let us always remind ourselves of the nobility of our calling. I dare to claim for it that among all the sciences ours, in the pursuit and use of truth, offers the most complete and constant union of those three qualities which have the greatest charm for pure and active minds—novelty, utility, and charity. These three, which are sometimes in so lamentable disunion, as in the attractions of novelty without either utility or charity, are in our researches so combined that, unless by force or willful wrong, they hardly can be put asunder. And each of them is admirable in its kind. For in every search for truth we can not only exercise curiosity, and have the delight—the really elemental happiness—of watching the unveiling of a mystery, but, on the way to truth, if we look well round us, we shall see that we are passing among wonders more than the eye or mind can fully apprehend. And as one of the perfections of nature is that in all her works wonder is harmonized with utility, so is it with our science. In every truth attained there is utility either at hand or among the certainties of the future. And this utility is not selfish; it is not in any degree correlative with money-making; it may generally be estimated in the welfare of others better than in our own. Some of us may, indeed, make money and grow rich; but many of those that minister even to the follies and vices of mankind can make much more money than we. In all things costly and vainglorious they would far surpass us if we would compete with them. We had better not compete where wealth is the highest evidence of success; we can compete with the world in the nobler ambition of being counted among the learned and the good who strive to make the future better and happier than the past. And to this we shall attain if we will remind ourselves that as in every pursuit of knowledge there is the charm of novelty, and in every attainment of truth utility, so in every use of it there may be charity. I do not mean the charity which is in hospitals or in the service of the poor, great as is the privilege of our calling in that we may be its chief ministers, but that wider charity which is practiced in a constant sympathy and gentleness, in patience and self-devotion. And it is surely fair to hold that, as in every search for knowledge we may strengthen our intel-

lectual power, so in every practical employment of it we may, if we will, improve our moral nature; we may obey the whole law of Christian love, we may illustrate the highest induction of scientific philanthropy.

Let us, then, resolve to devote ourselves to the promotion of the whole science, art, and charity of medicine. Let this resolve be to us as a vow of brotherhood; and may God help us in our work.

Pathology and Diagnosis of Trichiniasis.

BY J. M. PARTRIDGE, A. M., M. D., SOUTH BEND, IND.

NEARLY two thousand years ago it was written of Herod, King of Judea, that he was "eaten of worms and gave up the ghost." Since that time no doubt thousands and tens of thousands of human beings, from the royal rank of King Herod down to the lowest order of men, have been slain by parasites, and they have died in ignorance of the cause of their pangs, and their physicians have attributed their deaths to every disease known among men; but on none of their tomb-stones was this truth ever written, "Died of Trichiniasis."

The very obscure character of this disease, and the remarkable barrenness of the medical literature of all schools on this subject, have induced me to present to this society some thoughts thereon, deduced from actual observation and experience.

In January, 1879, I was called to see a German family consisting of the father, mother and three children. I found them all seriously ill, and similarly affected. Three physicians had preceded me. The first diagnosed *bilious diarrhœa*, the second, *typhoid fever*, and the third was prescribing for *inflammatory rheumatism*—which their symptoms so closely resembled that a solitary case might deceive the most careful observer. I also learned that other members of the family were similarly afflicted. All these facts led me at once to suspect some common toxical cause, and I made a thorough examination as to the sanitary condition of the well, cellar, and premises generally, but gained no clue to the difficulty until I entered the domain of the commissary or culinary department. I now learned that a few days before the sickness began,

they had purchased and slaughtered a hog, of which they had eaten freely. Upon carefully reviewing the history of these cases, I became convinced that they were infested with *trichina spiralis* and that the disease had reached its third stage, or that of muscular perforation and consequent inflammation.

My views were made known to several medical gentlemen who were treating some of these cases, but not one of them agreed with my diagnosis. However, the newspaper fraternity, ever on the alert for a new sensation, gave my opinion the greatest publicity. I now waited very anxiously the advent of the fourth stage of the disease by which my opinion was to be triumphantly confirmed, or as publicly refuted.

It came. In a very few days Mr. S. began to cough and complain of pain in his lungs, great dyspnœa, bloody expectoration, hectic fever and prostration.

He died in twenty-eight days from the onset of the disease.

A post-mortem examination, by the aid of the microscope, demonstrated that his muscles were literally filled with parasites; as many as thirteen having been counted in $\frac{1}{10}$ of a grain of flesh.

There were fourteen members of the family and relatives who partook of this pork, and all were more or less seriously affected with the disease. Two died. There were three married women in different stages of pregnancy from six weeks to four months. All three miscarried in the third stage, and all recovered.

Nine physicians, representing three different schools of medicine, one of them an ex-President of an Old School medical college, prescribed for these cases; not one of whom agreed with my diagnosis or recognized the existence of the parasites till their presence was demonstrated by the microscope.

Da Costa believes that in most cases there is no certainty of diagnosis short of vivisection and actual microscopic examination of the flesh of our patients; but if we bear in mind that this disease has its different and distinct stages of development, and having in any case a suspicion of *trichiniasis* in its first stage, and in due time there follow definitely marked, characteristic symptoms of the second stage, our suspicion of a possibility has now advanced to a *probability*. And, moreover, if there supervene, in

their appointed time and order, prominently characteristic symptoms of the third and fourth stage, we may be as positive and unerring in our diagnosis as in most other diseases. From these general observations on trichiniasis, I proceed to state as concisely as possible my views of its pathology and diagnosis. When by eating infected and imperfectly cooked meat, the parasite is taken into the living stomach in its encysted and dormant state, and by the process of digestion it is liberated from its cell and restored to active life, it immediately attacks and attaches itself to the mucous membrane of the stomach and bowels with which it is brought in contact.

For about two days it lacerates and gorges itself with this mucous surface, and when becoming sexually mature, it deposits thousands of young, hair-like larvæ; which immediately attack and for two days more greatly exaggerate this *mucous irritation* and *inflammation*, which is the characteristic pathological condition of the first stage. The diagnostic symptoms of the first stage are manifestly frequent, uncontrollable and long continued vomiting and purging of mucus, with terrible nausea and loathing of food and drink. Beyond the first stage or period of mucous irritation, the original or parent parasite is not recognized.

2. In the second stage the young parasite pierces the stomach and intestines and invades the adjacent glandular structures, causing irritation and inflammation of these organs, and producing a pathological condition similar to that of typhoid fever in its earlier stages.

The symptoms of the second stage are pain and soreness of the bowels with tympanites, low continued fever, diarrhœa, debility, loss of appetite and of sleep.

3. The parasite next manifests itself in the muscular system, the method of reaching which has hitherto been a disputed point, whether by continuously perforating and traversing the solid tissues or by the circulatory system; the probabilities, however, seem to favor the latter opinion. Indeed, I have a case in point that seems to demonstrate it. Among my patients was a nursing child, of whom the mother affirmed that it had not tasted the infected meat, and yet this child had the same symptoms as other members of the family, of trichiniasis in the third and fourth stages. Evidently this child received its parasite through the lacteal circulation. It is fair to infer,

therefore, that the parasites are carried from the lacteal into the general circulation, thence distributed by the capillaries through all the muscular structures. Here their presence is soon painfully realized.

Penetrating and lacerating the tissues, they gorge themselves therewith, until in a few days they have attained their growth and first form of development. This mutilating and consequent inflammation and weakening of the muscles constitutes the characteristic pathological condition of the *third stage*.

The diagnostic symptoms in the third stage are excessive swelling, soreness and weakness of the muscles, with fever, great anxiety and dyspnœa; the symptoms closely resembling those of inflammatory rheumatism.

The appearance of the fourth stage is recognized by greatly increased dyspnœa, frequent coughing, with sanguino-purulent expectoration, excessive bloating of the face and extremities, anxiety, sleeplessness and utter prostration. And if these different stages have been severe the patient dies, certainly and speedily, with symptoms of *typhoid pneumonia*.

I feel confident that you will find in this paper valuable aids to the detection of this occult disease, which have not before been published. To fail in diagnosis is a reproach you can not well afford to endure, and yet it is a humiliating but undeniable fact that after the second, and probably beyond the first stage of the disease, medical aid is of little aid. As physicians, your usefulness depends greatly on your prophylactic ability. You must educate the people in *decent* and *thorough* cookery. Rice is one of the simplest articles of diet, and yet death may result from eating half-boiled rice, by its swelling and over-distending the stomach.

If pork is thoroughly cooked there is absolutely no danger from trichiniasis. In a temperature of 212° parasitic life can not endure.

And here it may not be out of place to remark that just at this time there is great excitement in commercial circles on account of the unjust and unwarranted exclusion of American pork from European markets. Our Secretary of State is vigorously investigating this matter and will no doubt find that the first cases of trichiniasis on record were found in Europe, from eating European pork; and since that time there has been in proportion to the amount

consumed, greater fatality from the lean hogs of Europe than from the well-fed hogs of America. And he will also find that this should be a matter of domestic education rather than of commercial legislation.

SELECTIONS.

The London Lancet's Comments on the Gunshot Wound of the President.

* THE *Lancet*, of September 24, has quite a lengthy article on the gunshot wound of President Garfield, which we print in full, as it will be found quite interesting and highly instructive.—ED. NEWS.

It is with great regret that we have to record the fatal termination of the injuries received on July 2d by the President of the United States. As we have noted the progress of the distinguished patient week by week, we have been compelled to speak in the most guarded manner of the probable result of the injury, partly because of the scanty information in our possession, but still more from the extreme danger attending such injuries as he received. His iron constitution has borne up in a wonderful manner under illness that would long ago have proved fatal to one of less vital power, and this has afforded some ground for hope, but the extreme exhaustion and evidence of blood-poisoning have induced us to express a very serious view of the probable termination of the case. Unfortunately, the event has justified such an opinion, and our readers will have been quite prepared for the news which reached this country on Tuesday last.

The facts revealed at the autopsy, so far as they have reached this country, put us in a position to trace the true course of the illness and its complications, and afford an explanation of some hitherto unsolved problems. It was on July 2d that the injury was inflicted; the bullet entered the back to the right of the spine, between the tenth and eleventh ribs, and took a course downward; it broke the eleventh rib, and then, being deflected to the left, passed through the body of the first lumbar vertebra, severely splintering it, and ultimately lodged behind the

peritoneum, two inches and a half to the left of the spine, below the pancreas. There was severe shock, and signs of internal hemorrhage, which threatened to be fatal, were observed; but the patient rallied, and the most marked local symptom was severe pain down the right leg into the foot, caused by pressure on or injury to one of the lumbar nerves passing to the anterior crural trunk. Traumatic fever was marked, but not excessive, and as there was no evidence of visceral lesion, hopes of recovery were entertained. The first grave indication was the persistence of pyrexia after the establishment of suppuration, and its increase in the second week. On July 23d two rigors occurred, and it was deemed necessary to make a counter-opening in the loin, which gave exit to a considerable quantity of discharge; the pulse then fell, and the patient's strength and courage were so good as to inspire hope. But a disappointment occurred, for a few days later the temperature and pulse rose. As it was evident there was a bagging of pus along the wound, on August 8th a second counter-opening was made with temporary good effect; but now for the first time the bulletins contained references to the weakness of the pulse and general evidence of debility. To this was added extreme gastric irritability, so that on August 11th it was necessary to suspend entirely all attempts to give food by the mouth, and recourse was had to nutritive enemata; with this there was increasing exhaustion, which became so intense that for a time it was considered that the end was at hand. Again hope was excited, and nutritive enemata were retained and absorbed, the stomach regained some of its functional powers, and small quantities of fluid nourishment were taken by the mouth. Now a new and the most serious phase was added to the case in the form of an abscess in the parotid gland, which afforded undoubted evidence of blood-poisoning, the gravity of which was increased by the rapid and extreme emaciation, and the addition of a wandering delirium to the other signs of exhaustion. The parotid abscess was opened on August 24th. A few days later a second incision was made into a further collection of pus close by, and now the value of the President's robust constitution was shown by the gallant struggle he made against the progress of blood-poisoning—a struggle against enormous odds, but in which his success was at times such as to inspire some feeble

hope. Then came a period of daily fluctuation, and certainly no progress toward recovery, in which nutrient enemata were again resorted to; and on September 6th President GARFIELD was removed to Long Branch, a more healthy home on the shores of the Atlantic. The journey was fairly well borne, but now signs of hypostatic pulmonary congestion showed themselves, and the end was not far off. On September 17th a rigor occurred; on the 19th, two rigors; and late in the evening of that day, just as he was settling to rest for the night, the patient was seized with severe præcordial pain, quickly became unconscious and died, the constitution which had borne up against so much being at last overcome by hemorrhage from a mesenteric artery. The autopsy revealed in addition to the line of the bullet mentioned above, and the ulceration into the mesenteric artery from its track, a burrowing of pus from the wound on the right of the spine behind the kidney, quite down to the groin; a second large abscess close to the gall-bladder, and bounded by the liver and colon; a small abscess in the left kidney; severe bronchitis and broncho-pneumonia—what is more generally known as hypostatic pneumonia, or congestion of the bases of both lungs; but no pulmonary abscesses, no cardiac thrombosis, and no signs of putrid embolism.

It is not difficult to read the case in the light of its entire history, and the pathological changes found after death. For it has exhibited in a very typical manner the special features and perils of gunshot wounds which do not prove immediately fatal from their direct effects. The wound was devious and long, complicated with bruising of its edges and splintering of bones, and healing by primary intention was out of the question. As soon as suppuration was established, the tortuous track with its swollen walls became blocked at places; thorough drainage was impossible, bagging of matter ensued, partly in the more superficial region, where it was readily liberated by counter-openings, but also deep behind the abdominal cavity; and then ensued rigors and exhausting fever. But the suppurating wound in bruised tissues freely exposed to the air, with particles of dirt carried in by the bullet, soon became the seat of decomposition; and the putrid matter not finding a free vent, absorption into the blood of septic material took place, and it was this that led the

way to the fatal event. The parotid abscess was the first distinct indication of blood-poisoning, and we must express our astonishment that surgeons were found who refused to admit this interpretation of that symptom. But read in the light of the post-mortem examination it is most probable that the extreme gastric irritability, and the rise of temperature which preceded the parotid affection, were caused by the formation of the large abscess close to the liver. The telegraphic accounts are to the effect that this abscess was not in the liver, but only bounded by it. If this were its original seat, it must have formed in the peritoneal cavity—a most unusual thing. The far more likely solution is that quite on the surface of the liver a small abscess developed, which, after adhesions had formed around it, burst and greatly enlarged. The fatal hemorrhage was not directly caused by the septicæmia, but by ulceration spreading from the wound; and it is more accurate to say that the President died with septicæmia than from septicæmia, although the blood-poisoning would quickly have proved fatal. The great loss of weight was also a marked feature of the case, and was due to the continued fever, the discharge, the septic intoxication, and the failure of the digestive functions.

The fact that perhaps deserves the most prominent notice in the consideration of this case is that the original injury was not one necessarily fatal; death resulted solely from “accidents” in its course; and it may be taken as so far an example of a failure of surgery. In its path the bullet did not wound any vital part, and it became safely encysted; and had the sinuous wound it made only closed up, all would have been well. Why did not the wound thus heal up? The explanation is sufficiently obvious; its walls were bruised and so injured that primary union was impossible; the bruised and broken parts became sloughs and sequestra, and they and the adventitious matters carried into the wound had to be cast off by suppuration. But the path of the ball was very tortuous and narrow, and this condition was exaggerated by the swelling ensuing upon the injury and suppuration, and so the pus formed in the deeper parts of the wound, finding no ready exit, accumulated and burrowed, some being liberated by the surgeon’s knife, but one collection spreading down into the iliac fossa. Such a wound only too readily be-

came putrid, and the retention of pent-up putrid matter almost ensured absorption of septic poison and death. The necessary treatment then of the injury was first of all efficient drainage of the whole length of the wound, and prevention of decomposition of the discharge and the separating sloughs. It will be asked, could this have been done? Although the indications were obvious, we do not see how they could have been carried out with the means at present known. There was, first, the difficulty of ascertaining the exact course of the ball, and, as the event shows, even Bell's electric probe would only have misled the surgeons. Had its path been as they at first imagined, through the liver and peritoneal cavity, any enlargement of the wound in that viscus would have been fraught with great danger, nor would it have secured the end in view; while a thorough disinfection of the wound would have been an impossibility, and the attempt a very dangerous procedure. But had the surgeons known the exact course of the bullet, could they have succeeded in such an endeavor? To have secured free drainage would at any rate have exposed the patient to the risk of wounding a large vessel, or of opening the peritoneal cavity, with possible injury to the spinal cord and nerves. But it may be regarded as an open question how far successful an attempt to render the wound aseptic might have been; had it proved possible, the mere bagging of matter might have been subsequently dealt with. It would be unjust, however, to impute blame to the surgeons in charge; and it is a matter of congratulation that they were not led away by any vulgar desire to extract the bullet. The bullet had done no harm since it once reached its resting-place near the pancreas; and its extraction *per se* would not have influenced at all the subsequent course of the case.

Blood-poisoning is such a wide term that we can not dismiss the case with that diagnosis alone. In distinguishing its three forms—septic intoxication, septic infection and embolic pyæmia—we may exclude the last altogether, as the autopsy did not show any coarse embolic abscesses, although the repeated rigors just before death gave countenance to the view that they were being formed. In the pyrexia and rapid wasting and exhaustion we probably see the effects of the continuous absorption of a septic poison having no power of multiplication within

the body—septic intoxication. But certain it is that the abscesses in the liver, kidney and parotid offered abundant evidence of septic infection, or the absorption of a poison having the power of multiplying in the body, and associated with the presence of micrococci. Such abscesses are common in the kidney, where they seem to commence in masses of micrococci plugging the glomeruli, and their true nature is presumed to be similar in other parts. Had life been prolonged, it is very probable that such abscesses would have formed in the bases of the lungs, the vitality of which was lowered by the hypostatic congestion. Septic parotid abscesses are not very rare, although the Pyæmia Committee of the Pathological Society met with only one instance in their investigations.

In this connection we are able to give a definite value to the splendid constitution of the patient, for while the poisonous micrococci are capable of multiplying indefinitely in the body, living tissues have the power of destroying them, and the President showed his wonderful endurance and vitality in that these germs were destroyed, and that he withstood for so long the effects of the dread disease which had seized him. This form of blood-poisoning, when chronic, may run its course with but little pyrexia, although not with a normal temperature all through the day. There have been many expressions of surprise at the daily records of the temperature being so low and so inconsistent with the state of the pulse; but it must be remembered that the bulletins merely gave the temperature at certain hours, and we presume that the intermediate temperatures were often pyrexial. As to the minor details of the treatment we can say nothing; we are not acquainted with them, nor with the many finer and varying shades of the case, but the fact that life had been so long preserved is the best of all evidence in favor of the surgeons.

Pasteur's Address on the Germ-Theory.

[From the British Medical Journal.]

M. PASTEUR, after referring to his cordial reception by the International Medical Congress, and regarding it as a mark of homage paid to his labors during twenty-five years upon the nature of ferments, proceeded as follows:

Your cordial welcome has revived within me the lively feeling of satisfaction I experienced when your great surgeon Lister declared that my publication in 1857 on milk-fermentation had inspired him with his first ideas on his valuable surgical method. You have re-awakened the pleasure I felt when our eminent physician Dr. Davaine declared that his labors upon *charbon* (splenic fever or malignant pustules) had been suggested by my studies on butyric fermentation and the vibrio which is characteristic of it.

Gentlemen, I am happy to be able to thank you by bringing to your notice a new advance in the study of micro-organisms as applied to the prevention of transmissible diseases—diseases which for the most part are fraught with terrible consequences, both for man and domestic animals. The subject of my communication is inoculation in relation to chicken-cholera and splenic fever, and a statement of the method by which we have arrived at these results—a method the fruitfulness of which inspires me with boundless anticipations.

Before discussing the question of splenic fever vaccine, which is the most important, permit me to recall the results of my investigations of chicken-cholera. It is through this inquiry that new and highly important principles have been introduced into science concerning the virus or contagious quality of transmissible diseases. More than once in what I am about to say I shall employ the expression virus culture, as formerly. In my investigations on fermentation I use the expressions, the culture of milk-ferment, the culture of the butyric vibrio, etc. Let us take a fowl which is about to die of chicken-cholera, and let us dip the end of a delicate glass rod in the blood of the fowl with the usual precautions, upon which I need not here dwell. Let us then touch with this charged point some *bouillon de poule*, very clear, but first of all rendered sterile under a temperature of about 115° C. (239° F.), and under conditions in which neither the outer air nor the vases employed can introduce exterior germs—those germs which are in the air or on the surface of all objects. In a short time, if the little culture vase be placed in a temperature of 25° to 35° C. (77° to 95° F.), you will see the liquid become turbid and full of tiny micro-organisms, shaped like the figure 8, but often so small that under a high magnifying power they appear like points. Take

from this vase a drop as small as you please, no more than can be carried on the point of a glass rod as sharp as a needle, and touch with this point a fresh quantity of sterilized *bouillon de poule* placed in a second vase and the same phenomenon is produced. You deal in the same way with a third culture vase, with a fourth, and so on to a hundred, or even a thousand, and invariably within a few hours the culture liquid becomes turbid and filled with the same minute organisms. At the end of two or three day's exposure to a temperature of about 30° C. (86° F.), the thickness of the liquid disappears, and a sediment is formed at the bottom of the vase. This signifies that the development of the minute organism has ceased—in other words, all the little points that caused the turbid appearance of the liquid have fallen to the bottom of the vase; and things will remain in this condition for a longer or shorter time, and for months even, without either the liquid or the deposit undergoing any visible modification, inasmuch as we have taken care to exclude the germs of the atmosphere. A little stopper of cotton sifts the air which enters or issues from the vase through changes of temperature.

Let us take one of our series of culture preparations—the hundredth or the thousandth, for instance—and compare it in respect to its virulence with the blood of a fowl which has died of cholera; in other words, let us inoculate under the skin ten fowls, for instance, each separately with a tiny drop of infectious blood and ten others with a similar quantity of the liquid in which the deposit has first been shaken up. Strange to say, the latter ten fowls will die as quickly and with the same symptoms as the former ten. The blood of all will be found to contain after death the same minute infectious organisms. This equality, so to speak, in the virulence both of the culture preparation and of the blood is due to an apparently trivial circumstance. I have made a hundred culture preparations—at least, I have understood that this was done—without leaving any considerable interval between the impregnations. Well, here we have the cause of the equality in the virulence.

Let us now repeat exactly our successive cultures with this single difference, that we pass from one culture to that which follows it, from the hundredth to, say, the hundred and first, at intervals of a fortnight, a month, two months,

three months, or ten months. If, now, we compare the virulence of the successive cultures, a great change will be observed. It will be readily seen from an inoculation of a series of ten fowls, that the virulence of one culture differs from that of the blood and from that of a preceding culture, when a sufficiently long interval elapses between the impregnation of one culture with the micro-organism of the preceding. More than that, we may recognize by this mode of observation that it is possible to prepare cultures of varying degrees of virulence. One preparation will kill eight fowls out of ten, another five out of ten, another one out of ten, another none at all, although the micro-organism may still be cultivated; in fact, what is no less strange, if you take each of these cultures of attenuated virulence at a point of departure in the preparation of successive cultures and without appreciable interval in the impregnation, the whole series of these cultures will reproduce the attenuated virulence of that which has served as the starting-point. Similarly, where the virulence is null it produces no effect.

How, then, it may be asked, are the effects of the attenuated virulences revealed in the fowls? They are revealed by a local disorder, by a morbid modification more or less profound in a muscle, if it is a muscle which has been inoculated with the virus. The muscle is filled with micro-organisms, which are recognized easily because the attenuated ones have almost the bulk, the form, and the appearance of the most virulent. But why is not the local disorder followed by death? For the moment, let us answer by a statement of facts. They are these: the local disorder ceases of itself more or less speedily, the micro-organism is absorbed and digested, if one may say so, and little by little the muscle regains its normal condition. Then the disease has disappeared. When we inoculate with the micro-organism, the virulence of which is null, there is not even local disorder; the *natura medicatrix* carries it off at once, and here, indeed, we see the influence of the resistance of life, since this micro-organism, the virulence of which is null, multiplies itself.

A little further and we touch the principle of vaccination. When the fowls have been rendered sufficiently ill by the attenuated virus which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects or only effects of a

passing character. In fact, they no longer die from the mortal virus, and for a time sufficiently long, which in some cases may exceed a year, chicken-cholera can not touch them, especially under the ordinary conditions of contagion which exist in fowl-houses. At this critical point of manipulation—that is to say, in this interval of time which we have placed between two cultures, and which causes the attenuation—what occurs? I shall show you that in this interval the agent which intervenes is the oxygen of the air. Nothing more easily admits of proof. Let us produce a culture in a tube containing very little air, and close this tube with an enameller's lamp. The micro-organism in developing itself will speedily take all the oxygen of the tube and of the liquid, after which it will be perfectly free from contact with oxygen. In this case it does not appear that the micro-organism becomes appreciably attenuated even after a great lapse of time. The oxygen of the air, then, would seem to be a possible modifying agent of the virulence of the micro-organism of chicken-cholera; that is to say, it may modify more or less the facility of its development in the body of animals. May we not be here in presence of a general law applicable to all kinds of virus? What benefits may not be the result? We may hope to discover in this way the vaccine in all virulent diseases; and what is more natural than to begin our investigation of the vaccine of what we in France call *charbon*, what you in England call splenic fever, and what in Russia is known as the Siberian pest, and in Germany as the *milzbrand*.

In this new investigation I have had the assistance of two devoted young *savants*, MM. Chamberlain and Roux. At the outset we were met by a difficulty. Among the inferior organisms all do not resolve themselves into those corpuscle-germs which I was the first to point out as one of the forms of their possible development. Many infectious micro-organisms do not resolve themselves in their cultures into corpuscle-germs. Such is equally the case with beer-yeast, which we do not see develop itself usually in breweries, for instance, except by a sort of fissiparous production. One cell makes two or more which form themselves in wreathes; the cells become detached, and the process recommences. In these cells real germs are not usually seen. The micro-organism of chicken-cholera and many others behave in this way, so much so

that the cultures of this micro-organism, although they may last for months without losing their power of fresh cultivation, perish finally like beer-yeast which has exhausted all its aliments. The anthracoid micro-organism in artificial cultures behaves very differently. In the blood of animals, as in cultures, it is found in translucent filaments more or less segmented. This blood or these cultures freely exposed to air, instead of continuing according to the first mode of generation, show at the end of forty-eight hours corpuscle-germs distributed in series more or less regular along the filaments. All around these corpuscles matter is absorbed, as I have represented it formerly in one of the plates of my work on the diseases of silkworms. Little by little all connection between them disappears, and presently they are reduced to nothing more than germ-dust. If you make these corpuscles germinate, the new culture reproduces the virulence peculiar to the thready form which has produced these corpuscles, and this result is seen even after a long exposure of these germs to contact with air. Recently we discovered them in pits in which animals dead of splenic fever had been buried for twelve years, and their culture was as virulent as that from the blood of an animal recently dead.

Here I regret extremely to be obliged to shorten my remarks. I should have had much pleasure in demonstrating that the anthracoid germs in the earth of pits in which animals have been buried are brought to the surface by earthworms, and that in this fact we may find the whole etiology of disease, inasmuch as the animals swallow these germs with their food.

A great difficulty presents itself when we attempt to apply our method of attenuation by the oxygen of the air to the anthracoid micro-organisms. The virulence establishing itself very quickly, often after four-and-twenty hours in an anthracoid germ which escapes the action of the air, it was impossible to think of discovering the vaccine of splenic fever in the conditions which had yielded that of chicken-cholera. But was there, after all, reason to be discouraged? Certainly not. In fact, if you observe closely, you will find that there is no real difference between the mode of the generation of the anthracoid germ by fission and that of chicken-cholera. We had, therefore, reason to hope that we might overcome the difficulty

which stopped us by endeavoring to prevent the anthracoid micro-organism from producing corpuscle-germs, and to keep it in this condition in contact with oxygen for days and weeks and months. The experiment fortunately succeeded. In the ineffective (*neutre*) *bouillon de poule* the anthracoid micro-organism is no longer cultivable at 45° C. Its culture, however, is easy at 42° or 43° C., but in these conditions the micro organism yields no spores. Consequently it is possible to maintain in contact with the pure air at 42° or 43°, a mycelian culture of bacteria entirely free of germs. Then appear the very remarkable results which follow. In a month or six weeks the culture dies; that is to say, if one impregnates with it fresh *bouillon*, the latter is comparatively sterile. Up till that time life exists in the vase exposed to air and heat. If we examine the virulence of the culture at the end of two days, four days, six days, eight days, etc., it will be found that long before the death of the culture the micro-organism has lost all virulence, although still cultivable. Before this period it is found that the culture presents a series of attenuated virulences. Every thing is similar to what happens in respect to the micro-organism in chicken-cholera. Besides, each of these conditions of attenuated virulence may be reproduced by culture. In fact, since the *charbon* does not recur a second time (*ne recidive pas*), each of our attenuated anthracoid micro-organisms constitutes for the superior micro-organism a vaccine—that is to say, a virus capable of producing a milder disease.

Here then we have a method of preparing the vaccine of splenic fever. You will see presently the practical importance of this result. But what interests us more particularly, is to observe that we have here a proof that we are in possession of a general method of preparing virus vaccine based upon the action of the oxygen and the air—that is to say, of a cosmic force existing every where on the surface of the globe. I regret to be unable from want of time to show you that all these attenuated forms of virus may very easily, by a physiological artifice, be made to recover their original maximum virulence. The method I have just explained of obtaining the vaccine of splenic fever was no sooner made known than it was very extensively employed to prevent the splenic affection. In France, we lose every year, by splenic fever, animals of the value of twenty million francs. I was asked to give

a public demonstration of the results already mentioned. This experiment I may relate in a few words: Fifty sheep were placed at my disposition, of which twenty-five were vaccinated. A fortnight afterward the fifty sheep were inoculated with the most virulent anthracoid micro-organism. The twenty-five inoculated sheep resisted the infection; the twenty-five non-inoculated died of splenic fever within fifty hours. Since that time my energies have been taxed to meet the demand of farmers for supplies of this matter. In the space of fifteen days we have inoculated in the department surrounding Paris more than twenty thousand sheep and a large number of cattle and horses.

If I were not pressed for time I should bring to your notice two other kinds of virus attenuated by similar means. These experiments will be communicated by-and-by to the public.

I can not conclude, gentlemen, without expressing the great pleasure I feel at the thought that it is as a member of an International Medical Congress assembled in England that I make known the most recent results of vaccination upon a disease more terrible, perhaps, for domestic animals than smallpox is for man. I have given to vaccination an extension which science, I hope, will accept as a homage paid to the merit, and to the immense services rendered by one of the greatest men of England, Jenner. What a pleasure for me to do honor to this immortal name in this noble and hospitable city of London.

The Subcutaneous Injection of Mercury.

THE advantages of the hypodermic method of using medicines did not remain long limited to the use of morphia. By it a new field of therapeutic resource and research was opened, which the pioneers of the profession were not slow to explore and cultivate. Among the drugs thus tested was mercury, mostly in the form of the corrosive sublimate. There were many reasons why it was especially desirable to utilize this method in the treatment of syphilis, a disease whose visible presence carries with it more of disgrace and humiliation than any other, and whose ravages are often so terrific in their rapidity and destructiveness that time is an all-important

factor in its therapeutics. It is not our intention to review the literature of this subject; suffice it to say that, whilst the advantages of the hypodermic administration of mercury were generally appreciated, and the very great desirability of finding a form of solution which would be free from the extremely irritating effects always hitherto observed, acknowledged, the extreme pain caused by the injection, together with the frequency of abscesses and ugly resultant cicatrices led to its invariable abandonment.

The subject has lately been brought forward again in France, in such a manner as to attract fresh notice and interest. In the seance of the Societe des Hospitaux of Paris, of July 8th and 22nd, M. Mauriceau gave the results of his experience in the use of a new form of mercury—the *peptonate*, or rather *mercurial peptone*—as he terms it. The fact that mercury is absorbed in the state of *albuminate* had already suggested the addition of white of egg to the solution in the hope of thus facilitating its absorption, but with better but still unsatisfactory results. Then Bamberger proposed the substitution of peptone for the albumen; acting upon this suggestion, M. Mauriceau has had prepared a solution which he has employed with the results to be noted, and which is composed as follows: R. Bichloride of mercury, gr. 150, Catillon's dry peptone, chloride of ammonium (pure), of each, gr. 225, glycerine and water, q. s. He began by injecting *m* xv of this solution, containing gr. $\frac{1}{30}$ of the sublimate, every third day. No ill effects being observed, the dose was increased to $\frac{1}{15}$, and finally to $\frac{1}{5}$ and the injections were given daily. The solution which he was employing at the last report contained gr. $\frac{1}{5}$ to $\frac{1}{3}$ to every fifteen minims. The result of this treatment in M. Mauriceau's hands, deduced from an experience of 1,900 injections, was most striking. There had been, he states, no local accident, nor abscess, nor induration, nor had salivation ever been produced. In the great majority of cases there had been no pain; in two or three only had there been a burning sensation, not severe, but lasting for several hours, and in five or six others a slight smarting was experienced, never of more than an hour's duration. These unpleasant sensations have become manifest after the first two or three injections, but have not persisted after the fourth. The seat of election with M. Mauriceau for the administration of the mercurial

in this form, is the back between the scapulæ or in the lumbar region, on account of the cellular tissue there being loose and abundant. He insists that the needle should be sharp, and that it should enter deeply into the tissues.

The mercurial thus administered appeared to M. M. to act more promptly and with more effect than when introduced by the stomach, and to be especially applicable to very grave cases, with threatening symptoms, where it is necessary to produce prompt and decided action. The procedure recommends itself moreover by the ease with which it is employed, and by the absence of pain and other bad consequences. M. Mauriceau proposes to continue his experiments, and increase still further the dose of the sublimate. Making all allowance for M. Mauriceau's enthusiasm and prejudice in favor of a method of which he is himself the advocate, the results are too remarkable not to excite our deep interest. Whilst unwilling to accept all that M. Mauriceau has said, therefore, until confirmed by the experience and testimony of others, we can not ignore the statement of any credible witness as remarkable as these. Who can say of the subcutaneous injection of morphia, which we use habitually and without hesitation, that he has administered it 1,900 times without once producing an abscess, induration or scar, and in only a very small minority of cases, with only a burning or smarting pain of no great severity?

In this connection it is of interest to learn that Lewin, of Berlin, is also popularizing this method in Germany, especially in hospital practice. We may add that there seems no good reason for limiting it to hospitals any more than in the similar use of other drugs. Wherever the patient is willing to submit to it and can be seen daily it may be resorted to.—*Md. Med. Jour.*

International Medical Congress and Sir James Paget.

THE grand spectacle of the assemblage of over three thousand of the world's greatest physicians in the world's greatest city, from the 3d to the 9th of August, was the cynosure of all eyes. Unquestionably, it had no parallel in the annals of our ancient calling. The representative medical men of all civilized nations were there—Virchow,

Pasteur, Flint, Paget, Esmarch, Charcot, Billings, Jenner, and a great many more of those who give us our literature, who adorn and elevate our profession, and to whom we are accustomed to look up for counsel and instruction. The meeting was inaugurated in St. James Hall, London, with great formality by the Prince of Wales, in the presence of the Crown Prince of Germany. Then came that grand, eloquent, perfect address of the President, Sir James Paget, spoken, as we learn, from beginning to end without once hesitating or once referring to notes. Few men combine in themselves so many of those qualities, which excite our admiration and win our affections, as Sir James Paget. A scholar, orator, philosopher—his mind seems to be always at an equipoise, that *medias res* of safety. There is none of the stoic in his nature, but alive to every thrill that moves the chords of human feeling, he illustrates well the sentiment of those oft-quoted lines of Terence: "*Homo sum: humani nihil a me alienum puto.*"

He carries with him our sympathy, because we feel that he is one of us, and is pleading the cause of humanity, not of self. What a grand sight to behold one crowned with age, and still not incapable of the enthusiasm of youth or indifferent to the progress of science. May his closing words long linger in our memories, and be the motive of our lives and conduct: "Let us then resolve to devote ourselves to the promotion of the whole science, art and charity of medicine. Let this resolve be to us as a vow of brotherhood, and may God help us in our work."—*Md. Med. Jour.*

The International Medical Congress.

Section on Mental Diseases.

If the subjects brought forward may be taken as indicative of the current lines of observation in this specialty, it becomes interesting to compare the number of the pathological and clinical investigations with the almost entire absence of those of a therapeutic or preventive character.

The importance of this specialty was dwelt on by Dr. Lockhart Robertson in his opening address in the statement that there are in England alone 71,000 persons whom

the law recognizes as of unsound mind, being one in 350 of the population. These figures would appear to be a strong plea in support of Dr. Clouston's advocacy, in a very able paper, for the extension of the teaching of mental diseases to students of medicine.

In the animated discussion on this paper, the consensus of opinion pointed to the necessity for a greater use of the county asylums for the purpose of instruction; that in this way only could opportunities be afforded to every student to enable each to obtain such an acquaintance with insanity as would prepare him to answer a question on this subject at his examination by the licensing bodies; and that a special course of study should be demanded of all medical men who were empowered to sign certificates of insanity.

Dr. Bucknill, in his paper on "Testamentary Incapacity," specially discussed the recent decision in *Banks vs. Goodfellow*, wherein the Court of Queen's Bench found a person capable of making a will who was admittedly the subject of delusions of suspicion and persecution.

Dr. Maudsley pointed out that this was a sequence of similar American decisions, and commended the recognition of the ability of some cases of hallucinatory insanity to execute a will. In this opinion he was supported by Drs. Wood and Orange.

Dr. Motet, of Paris, alluded to the difficulty of deciding this question in cases of coarse brain disease with mental enfeeblement, and Dr. Bucknill quoted the case of a patient in a private asylum, who had lately, under his advice, executed a will with appropriate legal precautions.

The subject of Hypnotism was introduced by Professor Tamburini, who has, without doubt, taken the truly scientific method of examining in the most exhaustive manner the condition of the circulation, respiration and muscular irritability, as well as the reactions of the senses during the hypnotic state. By this method only can deception and imposition be eliminated from this matter, and the subject brought to have a definite scientific value.

Dr. A. Foville, in an interesting paper on "Megalomania," established two forms of exalted delusion; the first, fleeting, inconsistent and generalized, occurring in general paralysis, transiently in mania, in organic brain disease, and in alcoholism—in all these conditions being probably related to hyperæmia of the cortex of the brain. The

second variety is systematic and permanent, chronic in evolution and incurable; usually associated with hallucinations, with delusions of persecution and exalted change of personality; and being especially associated with illegitimacy.

Professor Tamburini, in his paper entitled "Cerebral Localization and Hallucinations," stated that Panizza, in 1856, recognized the existence of a sensory center (of sight) in the cortex cerebri, but that the full development of the discovery was due to Ferrier. He endeavored to prove that hallucinations are caused by disease of the sensory cortical centers.

Dr. Ferrier, in alluding to the distinct regions of special sense in the cortex cerebri, proved by his experiments before the present Congress, suggested that hallucinations should be regarded as sensory convulsions, analogous to those occurring in motor centers.

Dr. Alex. Robertson, in his communication on unilateral hallucinations, relegated their origin to the sensory centers, which, however, he did not at present consider to be satisfactorily mapped out.

Dr. Fournier attempted to prove that hallucinations differed only from ordinary acts of memory in being involuntary and unconsciously originated. An abnormal stimulus thus arising in the cortex was transmitted to the optic thalami, and by re-awaking of the activity of these organs gave rise to a false impression.

This theory met with very general opposition.

Dr. Fournier suggested the classification of hallucinations into those connected with: (1) the sensations of organic life; (2) the sensations connected with reproduction; (3) the sensations of the special senses; (4) the sensations produced by the voluntary activity of our organs, as by speech.

Dr. Motet's paper on Moral Traumatism in the Alcoholic had a medico-legal as well as a clinical interest in directing attention to the possible development of transient mania (not of the type of delirium tremens, but more nearly resembling the maniacal outbreaks after epilepsy) as a result of mental shock in a person of alcoholic habits.

Mental stupor was discussed in a valuable paper from Dr. Hack Tuke. He described three cases in which this condition was associated with catalepsy, and expressed the opinion that on a close examination most of these cases

would be found to be due to melancholic absorption, and that in comparatively few was the mind an utter blank. He proposed to abolish the use of the term, "acute dementia," using the term "mental stupor" instead, and adding the words "with melancholia," when this was associated.

Dr. Foville alluded to the fact that the term "acute dementia" was no longer used in France, and that only one condition was recognized. On the other hand, it was urged that there was a distinct difference between anergic stupor and stupor with melancholia, although in some cases the distinction was difficult, owing to the conditions closely approximating in the later stages of disorder.

Epilepsy was the subject of a demonstration by Dr. Lasegue, who described true epilepsy as being due to malformation of the skull, either idiopathic or traumatic; all other forms as being spurious or epileptoid—*i. e.*, those due to cerebral traumatism, organic lesion and toxic or hysterical conditions. The true epilepsy (excluding the traumatic) dependent on malformation of the skull, follows only on its ossification, and invariably develops between the ages of fourteen and eighteen years. The head is found, on examination and measurement, to be asymmetrical, either laterally or antero-posteriorly, and this is accompanied by asymmetry of the face, the mouth especially being askew (*strabismus buccalis*). This form is never hereditary, nor is it transmissible to offspring. The first attack of epilepsy is identical in character with all succeeding attacks, therein differing markedly from the epileptoid forms. The attacks of epilepsy occur between four and seven A. M., during the passage from the sleeping to the waking state. These patients are epileptics in everything. Dr. Motet stated that Dr. Lasegue's views were generally accepted in Paris, but no discussion in confirmation or opposition followed.

The relations of insanity to Paralysis Agitans was treated by Dr. Ball, to Exophthalmic Goitre by Dr. Savage, and to Gout by Dr. Rayner.

From Dr. Ball's paper and the discussion thereon, in which several additional cases were quoted, the conclusion may be drawn that insanity with paralysis agitans is more common than the limited number of recorded cases would appear to indicate; Dr. Mercier expressing the opinion

that the mental defect, being negative, was often overlooked.

Exophthalmic goitre was associated with insanity in three cases reported by Dr. Savage, who draws attention to the fact that symptoms of this disease may occur in general paralysis of the insane, and gave a case in which this diseased state recurred during attacks of mental disorder, being absent in the intervals, this case being markedly improved by hoscynamine.

Dr. Rayner quoted cases of insanity from retrocedent and latent gout, with others in which it was only an associated cause. The importance of the recognition of its presence with regard to prognosis and treatment was dwelt on, and a parallel drawn with the insanity resulting from lead and alcoholic blood poisoning.

Dr. Savage has rendered good service to pathology in drawing attention to changes produced in nervous tissues prepared for microscopic section by hardening in spirit. These changes, he showed, are not to be distinguished from the so called miliary degeneration. He also exhibited microscopic sections containing colloid and amyloid bodies, which were probably due to the mode of preparation. Dr. Benedikt expressed the opinion that the miliary bodies were normal, and not pathological. Dr. Holler, of Vienna, communicated a paper on a Method of Preparing Large Sections of human brains, of which he exhibited specimens. The process is a development of Sankey's method, large slices being stained in carmine-ammonia, placed in Canada balsam, dried on object glasses, and pared with tenotomy knives to the required thinness. These sections would be useful for anatomical purposes, but for histological and pathological observation it may be objected that they do not take a uniform plane.

Dr. Benedikt exhibited a series of fifty brains of criminals, in which he discovered, as a marked characteristic, a general coalescence of the typical fissures. This deviation from the normal type he termed "atypic," the same condition being present in hereditary insanity, epilepsy and other low types of the human brain. Dr. Shuttleworth gave an interesting *resume* of the cranial characteristics of idiocy, and Dr. Fletcher Beach exhibited brains of cretinoid and microcephalic cases, pointing out the close relation between the mental characteristics and the development of the convolutions. He quoted the observa-

tion he had made in common with Dr. Hilton Fagge, in cretinoid idiocy, that the thyroid body was absent, and was apparently supplemented by fatty growths in the posterior triangles of the neck. His microscopical sections showed the defect of processes in the motor cells of the brains of idiots.

A Study of Fever.

BY JOHN H. LOWMAN, A. M., M. D., CLEVELAND, O.

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of the Western Reserve University.

IN discussing a perverted physiological process, questions of pathology and etiology are so commingled that the actual state is often lost sight of. In the consideration of fever this confusion is especially noticeable. The discussion generally takes an etiological, pathological or therapeutical tack, so that a clear demonstration of what fever is in its essence does not appear. Much useless discussion and apparent difference of opinion result from this fact. Constantly as we use the term fever, a clear conception of that term is by no means as constant. Theories of the pathology and treatment will bend to the author's idea of the existing state. He who defines fever to be a disturbance dependent on a special anatomical lesion, and assumes that in an unannounced premise, can not converse clearly with one whose definition of fever is, a disturbance of the vaso-motor system. The discussion of apyretics to-day pre-supposes a mutual understanding of pyrexia. The confused state of medical opinion on this subject has prompted my presenting it at this time.

What, then, is fever? It has been defined as a form of inflammation; and inflammation is defined as an exaggerated or perverted nutrition. Again it is defined as an excessive activity, or less definitely, as an excessive disturbance of every function. There is nothing here that satisfies. It is necessary, therefore, for us to analyze fever as best we may, and fix on that condition that most frequently, or indeed constantly, prevails as the disturbance in the body that materializes our term. In fever there is disturbance of the glands, the cardiac apparatus, respiratory apparatus, the vaso-motor system, and the thermic func-

tion. Of these five conditions, the most prominent one is disturbance of the thermic function. Not only will all the others be found to depend on this, but in many cases where the phenomenon of fever exists, some of them may not be found. All varieties of glandular disturbance may be present in fever, and as far as we can detect there may be no disturbance at all. Every form of cardiac action may prevail, from rapid weak or rapid strong beat to the reverse; the respiratory apparatus may be acting normally; the vaso-motor system, as gauged by the blood pressure within the arteries by the cardiometer, may be normal, or in paroxysm, or in paralysis; but we never speak of fever unless there is a high temperature in the body, and this, we necessarily conclude, must be independent of the other conditions above mentioned. That a high temperature will produce all the disturbance just mentioned is easily proven. If an animal be placed in a closed box and the air in the box be gradually raised to a temperature several degrees above the heat normal to the animal, the animal heat, as indicated by the thermometer, will gradually increase. Subsequently there will be disturbances of the heart, similar to those seen in fever. The heart beat, at first strong and rapid, gets weaker with the increasing heat, and finally becomes imperceptible. The respiratory action follows that of the heart. When the heat becomes great, the cerebrum is affected. There is at first stupidity, then delirium and even convulsions, changing to coma and death. The ever-prevailing sequence observed in these experiments is evidence that heat is the cause. When the animal is removed from the box and doused with cold water, he will soon revive, if coma has not been too profound.

Dr. H. C. Wood's experiments, imitating insolation, also prove heat to be a cause of these disturbances. He fastened bladders to the heads of animals over the cerebrum, and kept the bladders filled with hot water. In this way the brains of the animals were heated without materially affecting the rest of the body. A condition resembling insolation was developed, sometimes gradually, sometimes suddenly. The stupor would gradually deepen into profound coma and death. If, however, the hot cap were removed and a stream of cold water poured on the head before the animal was *in articulo mortis*, it would revive and be apparently fully recovered in a short time. This

was tried on animals somewhat exsanguinated so that it could not be attributed to congestion of the brain. After death in these cases, the heat of the brain, as estimated by plunging in a thermometer, was in a cat, 108° , in a rabbit, 111° —about the temperature attained by prolonged exposure in the sun's rays.

T. Lauder Brunton has experimented with heat on the hearts of cold-blooded animals. It is well known that the hearts of these animals will beat for a long time after they are removed from the body. To the isolated heart of a frog, Dr. Brunton applied heat and found that the pulsations became more rapid until a limit of tolerance was reached, and then the pulsations ceased.

In these experiments there is no doubt whatever that the heat was the direct cause of the disturbance, and the disturbances observed are similar to those we find accompanying hyperexia in man. Furthermore, reasoning from therapeutics, there are some severe fevers that are relieved by simple abstraction of heat; *e. g.*, insolation and rheumatic cerebritis. In these diseases, when the temperature is 108° and coma is threatening, simple abstraction of heat until the temperature is 102° revives the patient. There can thus be no question but that heat is the agent that produces these changes, and the therapeutic end is best obtained by abstracting it.

Simple increase in the animal heat is not fever. The animal in the hot box suffers from heat, but may have no fever. So the artificially insulated animals suffer from heat but may have no fever. A man after severe muscular exercise has more than his usual quota of heat, and eliminates carbonic acid and urea in excess, but is not feverish. In all these cases the standard of temperature is preserved, and as soon as the extraneous circumstances are removed, is soon regained, though an increment of heat may have been temporarily added. The standard of temperature of man is $98\frac{3}{4}^{\circ}$; in some birds, 113° . Should the individual be chilled by a cold blast, the thermometer might record a lower degree for a time, but the standard would soon be regained by an increase in the production of heat in the body. Should the surrounding atmosphere be excessively heated, or the individual exercise actively, the registration of heat might be higher than the standard, but would soon fall to the normal through a diminished production or an increase of loss. Thus there are varia-

tions from the standard that are consistent with health but they are only temporary, and are limited.

By fever is meant a permanent elevation in the standard of temperature. In a man with fever this standard may be 104° . If he is temporarily chilled by a cold wind the thermometer may fall a degree or so, but soon returns to 104° . If he exercises freely, it may rise a degree or so, but soon returns to 104° . These changes are consistent with the new standard, 104° , just as the variations in health are consistent with the standard $98\frac{3}{4}^{\circ}$. We might say that a new individual is developed whose normal temperature is 104° . When pyogenous material (speaking according to Hueter) is in a man, his normal temperature is greater than his former temperature. To this paleological being, the normal temperature must be $98\frac{3}{4} + X$; X being more or less according to the grade of the fever. As Dr. Stokes expresses it, the individual has entered upon a new and special phase of existence. Yet he does not define the fever, but says "it is more easy to say what it is not than what it is." In consequence of taking no well-defined position as to what fever is, this author, usually so clear, becomes at times confusing; *e. g.*, when he makes the eruption in variola the result of fever, whereas it must be due to a special poison acting synchronously with the fever. He also holds syphilis to be a form of fever—a position now totally untenable.

A standard of temperature is maintained by a balancing of the heat-producing and heat-abstracting processes. They vary in activity, and have wide limitations consistent with health. Heat is lost to the body by radiation from the surface, conduction, expired air and excreta. The amount lost in a given time is difficult to determine, but it is estimated by Dr. Draper that enough is lost every hour to raise, if retained, the temperature of the body in that time 2.2° C., or 3.9° F. If all the heat lost in twenty-four hours were retained, and the heat production should progress at its usual rate, the temperature of the body would be doubled. If, however, heat is retained in the body, production diminishes; if lost in increased quantities, it is produced excessively. The amount of heat lost in a certain time may be estimated by the cold water bath. Thus, Dr. Draper found that a man weighing 180 pounds, resting in a bath of 472 pounds of water for one hour, would raise the temperature of the water 1.11° C.

The amount of heat necessary to raise 472 pounds of water 1.11° C. in one hour, would represent the amount of heat lost normally by the body in the same time. The amount of heat necessary to raise 472 pounds of water 1° C. would be twice the quantity necessary to raise 236 pounds 1° .—*Ohio Med. Jour.*

Intussusception—Recovery.

(To the Editor of the *Canada Lancet*.)

Sir:—On Saturday, September 4, I was called to see a case which appeared to puzzle the attending physician beyond measure. I found upon my arrival a young man aet. 19 in dorsal decubitus, with knees drawn up and complaining of nausea and pain over the abdomen, which was most severe in the ileo-cæcal region. On questioning I learned that no movement of the bowels had taken place for two days previous, although there had been a discharge of blood and mucus. There was great tympanites present, but pressure did not intensify the pain as I expected it would. The pulse was 110, and the temperature nearly normal, and spontaneous vomiting of a brown fluid, having a slightly fæcal odor, now occurred. The thirst was intense, but when fluids were swallowed, they were immediately ejected. I ordered ice with better effect, as the vomiting did not occur again. I diagnosed the case to be intussusception; the attending physician coinciding with my opinion. From the symptoms present I resolved to try injections of warm water and turpentine every two hours, and this failing obtain competent surgical aid and perform laparotomy. Next day I again visited the case and was pleasantly surprised to find a marked improvement, the tympanites reduced and gases with an offensive odor escaping although no movement of the bowels had taken place, but he as had not eaten solids for three days this did not cause any fresh alarm. I left the house with directions to continue the injections as before and report to me next day the progress made during the night, when I was still further surprised to hear of marked improvement in every particular, and food was retained. I have not seen him since, but keep myself informed each day, and the movement of the bowels is normal. No abdominal tumor could be discovered owing to the excessive

tympanites that existed when I first saw the case. My object in reporting this case is simply to show that surgical interference is not always necessary or justifiable, but had my experience as a surgeon been such that I could have operated myself, I would undoubtedly have done so, and distance from competent aid led me to try the above alternative. Hoping that you may consider this worthy a place in your valuable journal,

I remain yours respectfully,

T. R. HOSSIE, M. D.

Gouverneur, N. Y., Sept. 10, 1881.

Surgico-Anatomical Study of the Gunshot Wound of President Garfield.

BY FANEUIL D. WEISSE, M. D.,

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AFTER the autopsy on the remains of the late President, performed September 20, 1881, the following seemed to have been the course of the fatal ball after it entered the President's body, and the same was verified by actual dissections:

The ball entered opposite the tenth intercostal space, about four inches to the right of the median line of the back. It ranged in a direction forward and downward, inclining a little from right to left. It perforated to the plane of the ribs through the skin, subcutaneous tissue, fascia, the latissimus dorsi, serratus posticus inferior, and sacro-lumbalis muscles. It impinged upon the eleventh rib (the most movable of all the ribs), which it crowded to a plane anterior to that of the twelfth. It produced a comminuted fracture of the eleventh rib. The impact of the ball on the eleventh rib caused it to turn on its axis, and from there it was deflected to the left. It perforated the eleventh external intercostal muscle and the sub-pleural portion of the diaphragm just above the right ligamentum arcuatum externum. It tracked through the connective and adipose tissue between the superior portion of the right kidney and the twelfth rib to the spinal column. It pierced the attachment of the right psoas magnus muscle to the first lumbar vertebra. It entered the body of the first lumbar vertebra from right to left. It emerged from the left of the spine, pierced the left psoas magnus muscle attachment, and entered a plane of connective and adipose tissue between the left kidney posteriorly and the left half of the pancreas anteriorly. It crossed the posterior surface of

the pancreas obliquely to the left and from above downward to its point of lodgment. It wounded the splenic artery in its transit across the pancreas (the splenic artery presenting in the track of the ball, it seemed more than probable that it, and not the mesenteric, would prove, upon a careful dissection, to have been the injured vessel), from which source the final hemorrhage occurred which burst into the peritoneal cavity.

I visited Washington with Dr. Geo. F. Shrady, upon the invitation of Dr. D. W. Bliss. At that time Dr. Shrady was informed of the above theory and dissections, but Dr. Bliss knew nothing of these anatomical investigations. Dr. Bliss related to Dr. Shrady and myself a detailed history of the President's case from July 2d to the time of his death. The pathological specimens taken from the body were placed at our disposal by Surgeon J. J. Woodward, U. S. A., in charge of the Army Medical Museum (where the specimens are), and we studied them carefully. Drs. Woodward and Lamb had made careful dissections of the pathological specimens, by which were revealed the following conditions, which lack of time had rendered impossible to have been known at the time of the issue of the Elberon autopsy bulletin:

First.—The existence of a united fracture of the right twelfth rib.

Second.—The entrance of the ball at the right side of the intervertebral fibro-cartilage, between the twelfth dorsal and the first lumbar vertebræ, involving the adjoining portion of the body of the first lumbar vertebra, anterior to the right intervertebral foramen, between the pedicles of the twelfth dorsal and the first lumbar vertebræ.

Third.—The transit of the ball through the superior half of the body of the first lumbar vertebra, from right to left and obliquely forward and downward, producing a comminuted fracture of the body of the vertebra.

Fourth.—That the intervertebral fibro-cartilage between the first and second lumbar vertebræ had been injured, by the comminution of the body of the vertebra contiguous to it.

Fifth.—That the left anterior inferior edge of the body of the twelfth dorsal vertebra was broken away.

Sixth.—The evidences of a traumatic aneurism in communication with the splenic artery, at about two and one-half inches from its origin from the celiac axis.

Seventh.—The cyst which contained the ball was found

at the inferior border of the external left third of the pancreas posterior to the peritoneum, viz., the posterior inferior layer of the lesser omentum, which becomes the anterior superior layer of the transverse meso-colon.

Eighth.—The imperviousness of the track of the ball for an inch or more from the cyst.

The specimen of the abdominal viscera did not present anything bearing upon the location of the collection of pus to the right of the vertebral column described in the Elberon autopsy bulletin.

Reviewing the theory previously deduced, with these additional facts, there was found only this to add:

In that portion of its course after deflection from the eleventh rib to the spine, the ball grazed the anterior surface of the twelfth rib, producing a simple fracture of it.

The transit of the ball through the spine had been defined, but remained virtually the same.

The injuries inflicted by the ball may be epitomized as follows:

First.—A compound comminuted fracture of the eleventh rib.

Second.—A compound fracture of the twelfth rib.

Third.—A compound comminuted fracture of the body of the first lumbar vertebra, complicated with injury to the intervertebral fibro-cartilages above and below that vertebra, and the breaking off of the border of the twelfth dorsal vertebra.

Fourth.—A wound of the splenic artery.

The anatomical reasons for the sequelæ of the above injuries are:

Sequelæ of the first injury.—The compound comminuted fracture of the eleventh rib developed the superficial abscess opened by the first operation; the debris of the comminuted rib—thrown by the deflection of the ball downward into the substance of the muscles of the parietes—was the direct cause of irritation, etc.

Sequelæ of the third injury.—The concussion to the spinal column had its expression in the symmetrical pains at the peripheral distributions of the right and left sacral plexuses, below the knees, indicating disturbances of their contributive spinal nerves, which constitute the major portion of the cauda equina within the lumbar region of the column.

The pain in the right inguinal region and of the right

side of the scrotum would find its explanation in a special impression upon the right first lumbar nerve—the anterior branches of which are the right ilio-hypogastric and ilio-inguinal nerves distributing thereto—which is in close relation with the first lumbar vertebra.

The comminuted fracture of the lumbar vertebra, the injury to the twelfth dorsal, and the injured intervertebral fibro-cartilages determined a consecutive destructive inflammation, the pus from which drained to the right. The pus, however, did not altogether follow the track of the ball posterior to the right kidney; some of it passed anterior to the right kidney, dissecting its way posterior to the peritoneum.

The pus, taking the posterior course, dissected its way down in the post-visceral and extra-peritoneal (sub-serous) areolar tissue, interior to the transversalis fascia of the abdominal parietes, the process ultimately resulting in the sinus, which extended to the iliac fossa.

The pus, taking the anterior course, did not have an outlet, and a reservoir of it accumulated between the right kidney posteriorly and the peritoneum covering the liver and the colon anteriorly.

The contiguity of this pus to the liver and colon induced a protecting localized adhesion of the opposed peritoneal surfaces, investing the liver on the one hand, and the hepatic flexure and right half of the transverse colon on the other. These conditions were verified at the autopsy. "An abscess-cavity, six inches by four in dimensions, was found in the vicinity of the gall-bladder, between the liver and the transverse colon, which were strongly adherent. It did not involve the substance of the liver, and no communication was found between it and the wound." It is possible that there was an error as to the location of this pus; in exposing the abscess *in situ* the adhesions between the liver and colon were progressively separated, and the collection of pus—really behind the posterior plane of the peritoneum, in the right lumbar region—as it bulged forward, gave the semblance of lodgment between the liver and colon.

Sequelæ of the fourth injury.—The injury to the splenic artery developed a traumatic aneurism, as appeared in the dissected specimen. The location was such that it obstructed the track of the ball to the left side of the spine, in which position it determined two reparative processes:

1st. The obliteration of the track of the ball to the left of the first lumbar vertebra, which prevented the drainage of pus in that direction. 2d. The lodged ball, sealed hermetically from access of air by the closure of its track, became at once encysted.

The surgical anatomy of this memorable case of gunshot wound admits of the following conclusions:

First.—It is a matter of great regret that the autopsy was not made from the back instead of the anterior plane of the body. The bullet entered from behind, and from this direction it should have been followed; after which the internal organs could have been examined for evidences of any remote effects of the wound. Dissections demonstrate, conclusively the advantages, in this particular case, of such a course, as it would have exposed the lesions and the encysted ball *in situ*.

Second.—The impossibility at any time to have safely or even successfully probed the wound so as to find the ball.

Third.—The ball as lodged was shut in beneath the abdominal parietes and kidney posteriorly, and the abdominal parietes and spleen laterally and to the left. In this location no operation was warranted for its removal, there having been no evidence of its presence there.

Fourth.—Had the point of lodgment of the ball been known, the fact of its not producing any local irritation—the formation of an abscess around it—would have been a positive contra-indication against any operation looking to its removal.

Fifth.—If an abscess had formed around the ball instead of its becoming encysted, the pus might have burst into the peritoneal cavity, or pointed in the left loin below the kidney, and formed a similar post-visceral and extra-peritoneal sinus to the one that existed on the right side.

The rupture into the peritoneal cavity would probably have been provided against by the occurrence of suitably protecting peritoneal adhesions. Had the sinus formed, it would have afforded a clue to a correct diagnosis; and under these conditions, after an incision had been made to allow the escape of pus at the left side, an exploratory operation, with the sinus as a guide to the ball, might have been warranted, even to the determining its positive location, and possibly its extraction. Indeed, the ball itself might have dropped into the left sinus.

Sixth.—It was anatomically possible for a ball deflected downward from the eleventh rib to take the same course as did the sinus to the iliac fossa, and there was afforded—by the rapidity with which this sinus formed; the readiness with which the drainage tubes passed; the fact that the incision of the second operation tapped the sinus below the twelfth rib; the fact that the wound of entrance of the ball healed so promptly after the incisions below; the existence early in the case of a point of tenderness in the right iliac fossa and the subsequent recognizable induration there, which gradually diminished—sufficient grounds to warrant the diagnosis that was arrived at, and maintained up to the time of the death of the patient, especially so in the absence of any evidence that the ball had taken a different course.—*Medical Record.*

MICROSCOPY.

MICROSCOPICAL APPEARANCES OF STRIPED MUSCLE DURING REST AND CONTRACTION.—D. Waycraft, of Sir Josiah Mason's College, Birmingham, maintains that the fibrils of striped muscle are homogeneous, and that the stripes are entirely owing to alternate convexities and concavities, which with the stripes disappear while the fibrils are stretched and their caliber rendered uniform. He had imitated the stripes of muscles by producing concavities and convexities on a glass rod, immersed in Canada balsam. He maintains that the fibrils are stained uniformly by eosine, but that the thin stripe appears more deeply stained because it occasions convergence of the colored rays.

Dr. Rutherford takes issue and says, that it is impossible to regard the fibrils as homogeneous; for a very diluted solution of eosine, aniline-blue or picrocarmine scarcely stains at all the substance of the clear stripe, while it stains the sarcois elements and globules of Dobie's line deeply.

THE BLOOD.—Recent investigations, such as those conducted by Drs. Cutter and Bradford, of Boston, have established that there is great variation in the number of the globules of an individual, depending on various causes, such as the locality from which the blood is drawn, the loss of fluids, as by diarrhea, sweating, increased urinary secretions, etc., and even the period of the day, week, or year. These general conclusions have also been

sustained by Hayem, of Paris, in researches which are still being prosecuted.

The pigment of the blood occurs usually in an amorphous form, and is called hematine. The brownish red needles found in extravasated blood are known as hematoidine.

Hemoglobin also occurs in most mammalian blood, and is deposited under the form of rhombic plates. According to Montegazza and others, richness in hemoglobin indicates a corresponding richness in red corpuscles, and any special depth of color in the blood may be regarded as implying a certain given number of red corpuscles to the cubic millimetre. While this ratio appears to hold true in health, it fails in disease. Thus, a condition which we recognize as anemia, may be almost wholly due to a loss of hemoglobin in the corpuscles, or an actual loss of red corpuscles, together with a diminished amount of hemoglobin in those that remain. In the cachexia of cancer the number of the corpuscles may be sustained, but their hemoglobin diminished. In diabetes mellitus, on the other hand, there may be an excess of red corpuscles, while there is a diminution of their hemoglobin. In anemia, from hemorrhage, there is an actual loss both of corpuscles and of hemoglobin in those that remain.

In early fetal life all the corpuscles are colorless. According to Balfour and Foster, both colored and colorless corpuscles, at least in the chick, are developed from solid sprouts of protoplasm, derived from the middle germinal layer. There seems good reason, however, to believe that the leucocytes are formed in part, at least, from the lymphatic glands, and Klein thinks that they are thrown off from the "germinating buds" of serous membranes. Later, the red ones make their appearance, and are for a time nucleated. The investigations of Neumann and Bizzozero, showing that the red corpuscles in the medulla of bones are also nucleated, favors the theory that bone-marrow is one of the theaters for such corpuscular metamorphosis.—*Satterthwaite's Manual of Histology.*

Diagnosis of Blood-Stains.

DR. J. G. RICHARDSON, of Philadelphia, gives the following summary of the results of his measurements of blood-

corpuscles, published in *Gaillard's Medical Journal*, and reprinted in *The Medical Herald*, from which we copy:

First—That in unaltered blood-stains, as ordinarily produced by the sprinkling of drops of blood upon clothing, leather, wood, metal, etc., we can, by tinting with anilin or iodine, distinguish human blood-corpuscles from those of an ox, pig, horse, sheep and goat, whenever the question is narrowed down by the circumstances of the case to these limits.

Second—By the method I have devised we can measure the size of the corpuscles, and apply the two corroborative tests of tincture of guaiacum with ozonized ether and of spectrum analysis, to a single particle of blood-clot weighing less than one fifteen-thousandth part of a grain, a quantity barely visible to the naked eye.

Third—Hence, when an ignorant criminal attempts to explain suspicious blood-spots upon his clothing, weapons, etc., by attributing them to the ox, pig, sheep or goat, or to any of the birds used for food, we can, under favorable circumstances, *absolutely disprove* his false statement, and materially aid the cause of justice by breaking down his lying defense, even if twenty years have elapsed.

Fourth—But, if the accused person ascribes the tell-tale blood to a dog, an elephant, a capybara, or any other animal in Dr. Woodward's list, it is useless to attempt to dispute his story, on microscopical evidence as to the size of the blood-corpuscles.

Fifth—In cases of innocent persons wrongfully accused of murder, and really stained with the blood of an ox, pig, or sheep, testimony of experts, founded upon measurement of the corpuscles, would be valuable, but less conclusive, because, under certain circumstances, human blood-corpuscles may *shrink* to the size of those of the ox, whilst under no known condition do ox or pig corpuscles *expand* to the magnitude of those in human blood.

Sixth—In order to do away with ingenious objections of lawyers that the murdered person may have been affected with some disease which altered the size of his blood disks, or that the articles of clothing, etc., upon which the stains were deposited had produced, chemically or otherwise, some similar change in their magnitudes, it is very important to obtain, promptly, stains from the fresh blood of the victim, made in the presence of wit-

nesses, upon portions of the prisoner's clothing, or weapons analogous to those upon which suspicious red spots are found when he is arrested. When this can not be done, spots of the murdered person's blood, sprinkled on white paper, and fragments of his lungs and kidneys, should be carefully preserved, the former by rapid drying and the latter by preservation in diluted alcohol. These little precautions, which may in any instance, prove to be of infinite importance, should be earnestly impressed upon coroners, district attorneys and policemen, throughout the civilized world.

Protoplasm and Nucleus.

A NUMBER of investigators have lately given their attention to the structure and functions of nuclei, in both animal and vegetable cells. The subject is still very obscure, and there remains considerable difference of opinion as to the relative importance of nuclei. However, the attention that they have received has lately led to many new discoveries. It has been found that many plant-cells, which were supposed to be destitute of nuclei, do possess them—sometimes several in each cell; but it is stated that the *Phycochromaceæ* have no nuclei. The following summary of the views of F. Schmitz will prove interesting in this connection: The protoplasm of vegetable cells is a reticulated framework of fine fibrillæ. In the youngest cells the peripheral layers of the protoplasm are freely dotted, while toward the middle are homogeneous lacunæ or vacuoles. These increase, both in number and in size, as the cell grows older, frequently coalesce until the protoplasm becomes reduced to a reticulated, parietal utricle, with a number of threads crossing the cell-cavity. Between the meshes there is a homogeneous fluid. The nucleus consists of a matrix in which, after hardening and coloring, a very fine punctation can be recognized, probably due to a reticulate structure. The nucleus must be regarded as a differentiated portion of the protoplasm; its special function appears to be the formation of the proteinaceous substance.

We are not yet prepared to subscribe to all that has been written about the reticulated structure of protoplasm and nuclei, but prefer to wait for more convincing

demonstrations. Mr. C. Fromman not only finds the reticulated structure in the protoplasm in the chlorophyll-grains and in the cell-walls, but he also states that adjoining cells usually communicate by means of openings through which the threads of protoplasm pass. This observation is so utterly at variance with previous experience, that we greatly doubt its accuracy, and regard the statement as very improbable. We are particularly cautious about accepting the conclusions concerning the reticulations since Dr. Lester Curtis, of Chicago, thinks he has conclusively proved that the net-work of blood-cells, which Klein and others have so fully described, has no existence in the living cells. Dr. Curtis' article, to which we allude, has not yet been published.

BOOK NOTICES.

ANTISEPTIC SURGERY. THE PRINCIPLES, MODES OF APPLICATION, AND RESULTS OF THE LISTER DRESSING.—By Dr. Just. Lucas-Championniere, Surgeon to the Hopital Tenon, Member of the Societe De Chirurgie, etc. Translated from the second and completely revised edition, with the special sanction of the author, and edited by Frederick Henry Gerrish, A. M., M. D., Surgeon to the Maine General Hospital, and Professor of Mat. Med. and Therapeutics in Bowdoin College, etc. 8vo. Pp. 239. Portland: Loring, Short & Harman.

Every intelligent physician who takes a medical journal (and no physician can be intelligent who does not take a medical journal) has heard of the Lister method over and over again. As Dr. Gerrish says, it has hardly been possible, for more than a decade, to glance through a medical journal without seeing something concerning it. But while this is true, there are comparatively few medical men in this country who have a sufficiently good knowledge of this modern system of treating wounds to enable them to apply it with essential accuracy. The consequence is that a great many surgeons either do not use it at all, or, when some do attempt to employ it, they so incorrectly apply it that disappointment is the result. Mr. Lister has always insisted that successful results from the use of his antiseptic method will only follow when his plan has been carried out in all of its minute details.

The object of the work, as stated by the translator, is to supply the profession of this country with a low-priced treatise in the English language, from which one can acquire the necessary information with regard to the principles, practice and results of antiseptic surgery. He, therefore, says that he has translated this work that the American physician may experience the benefits of a method which will do more than any other to lead his surgical patients to recovery without delay, danger or discomfort. A careful perusal of the work will show, we think, that the Listerian theory is rational, and its practice wonderfully satisfactory; but also that its application is neither difficult nor seriously expensive.

In Denmark the Lister method is said to reign supreme. In France it has gained a very firm foothold, which it will no doubt maintain. By it wounds unite in the greater part of their extent, and the remainder does not suppurate. Erysipelas, if not altogether unknown, is infinitely rare. Purulent infection, too, seems to have disappeared from the list of wound complications in the services where Listerism is followed. Price, \$2.25.

ARTIFICIAL ANESTHESIA AND ANESTHETICS.—By Henry M. Lyman, A. M., M. D., Professor in Rush Medical College, Chicago. 8vo. Pp. 338. New York: Wm. Wood & Co. Cincinnati: H. L. Stacey.

This is the issue of September of "Wood's Library of Standard Medical Authors."

In this work of over three hundred pages will be found everything of value known in regard to the various anesthetics in use. The whole subject of them is treated in minute detail. Not only is set forth what the author himself knows about them, but the work also embodies "all the excellencies of the writers who have investigated the subject of Artificial Anesthesia. The practiced expert will, therefore, recognize the quality of Perrin, of Snow, of Simpson, of Sansom, of Anstie, of Turnbull, of Keppeler and of Rottenstein." Physicians, who not only wish to inform themselves in regard to anesthetics for the every day purposes of practice, but desire to have a work for reference in any event that may transpire, as a medico-legal case, etc., will undoubtedly find this one the most complete and reliable that has yet been issued. It will greatly enhance the value of Wood's Library for the present year.

Under the head of "Anesthesia in Obstetrical Practice," the author states that in perfectly natural labor the use of anesthetics can afford no advantage—may even work an injury to the patient. But in civilized society, he says, the majority of mankind are living under quite abnormal conditions. As a consequence of this, the reproductive functions suffer disturbance in a manner that becomes more conspicuous than the minor affections of the other bodily functions. Woman, being more sensitively organized than man, exhibits these reproductive derangements in their highest degree. Hence, in civilized society, it is the rule, rather than the exception, to find parturition, attended with a high degree of suffering.

The use of anesthetics, therefore, he considers perfectly justifiable in all cases of painful obstetrical function, on precisely the same ground that the use of anodynes in painful menstruation is defensible. He regards that in all cases of normal parturition the employment of anesthetics is as undesirable as would be the practice of using opiates during the period of normal menstruation.

Some physicians refuse to give anesthetics during the first stage of labor. But our author considers them as safe and as needful in that stage as in the second, when the sufferings are great. Every case, he says, should be estimated by itself, and pain should be alleviated without regard to the time of its occurrence. The unfavorable results which have been ascribed to anesthesia during an early period of labor have been due to an excessive use of the anesthetic rather than to its use at all.

He considers chloroform as the obstetrical anesthetic *par excellence*. Its convenience, the agreeable effects of its inhalation, and the very trifling degree of changes which accompanies its use, all unite in maintaining for this elegant preparation the first place among anesthetic agents preferred by the obstetrician. This, however, should be true only of its use as an anodyne. When complete anesthesia is required for the graver operations of midwifery, sulphuric ether should be preferred to all other agents.

THE PHYSICIAN'S VISITING LIST OF LINDSAY & BLAKISTON
FOR 1882. Thirty-first year of publication.

This well-known Visiting List for the coming year is now out; and those practitioners who wish to insure the

possession of one should secure it immediately, for if they wait until the time to use it, they may be disappointed. While the plan, which is so much approved, remains the same, there is added to this edition, but which occupies very little space, Marshall Hall's Ready Method in Asphyxia, Poisons and their Antidotes, Metric System of Weights and Measures, Posological Table—giving doses of medicines in both the usual apothecaries' weights and measures, and in metric terms.

This Visiting List is too well known to require either description or commendation from us.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

PROFESSIONAL RELATIONS BETWEEN PHYSICIANS AND DRUGGISTS.—The relations between physicians and druggists have recently formed a subject of discussion in the *Philadelphia Medico-Legal Society*, and other medical societies of Philadelphia. It is a most important one, and we often feel surprised that the profession seem to take so little

interest in it. It is the commonest thing for druggists in Cincinnati to prescribe. We presume there is not a single retail druggist in this city that does not do more or less of it every day; and, in fact, some of them treat as many patients in their stores as the generality of physicians do in their offices. And as for the refilling of a prescription without the order of the physician who wrote it, we believe there are not more than one or two, so far as we have personal knowledge, who would not be surprised if his right to do so was disputed; and yet a little reflection should convince any one that such a claim is a gratuitous assumption, the validity of which ought not to be recognized for a moment. This prerogative, if we may so term it, of dispensing a doctor's prescription broadcast, after it has left his hands, having been prescribed to meet special indications in a particular person, should meet with deserved reprobation. It is dangerous—eminently so—for it might lead to the death of some one, or inflict injury to health. Besides, it is unjust to the physician. A few days ago we learned that some half dozen families, the most of them strangers to us, had been having a prescription of ours, written a long time ago for some one individual for a special object, refilled time and again for a number of years. Such procedures existing must tend to be highly injurious to the community, and, on that account alone, should be stopped; but it is besides a swindle upon physicians. A physician has acquired his knowledge of medicines, and how to combine and use them for the cure of diseases, at great expenditure of both money and time, and no one has a right to make use of his knowledge for the relief of any ailment without compensating him. In such instances a druggist is fully paid for the price of the medicines and compounding them, and often nets many dollars, but the physician does not realize a cent.

We are happy to be able to state that our Philadelphia brethren have taken action looking to breaking up the abuse. By means of a circular sent to them individually, the special attention of all regular physicians and pharmacists of that city has been invited to a set of resolutions offered by representative pharmacists of Philadelphia, at recent meetings of conference between a committee of the "Medico-Legal Society of Philadelphia" and regular pharmacists, at the College of Pharmacy, and adopted for mutual observance and adherence, that "through the

practical operation of said resolutions the legitimate office of Pharmacy and the professional Province of Physicians shall not only be powerfully promoted, but the physical and moral welfare of the community at large be better guarded and protected."

1. "Resolved, That the subject of controlling the Patent Medicine evil be referred to the Philadelphia Medico-Legal Society, and that they be requested to send a committee to Druggists, requesting them to place out of sight Patent Medicine Signs and Medicine, and discourage the sale of Nostrums; said druggists to sign their names to such an agreement, and physicians promising, on their part, to throw all the weight of their patronage to such pharmacists as comply with the request."

2. "Resolved, That physicians, when writing a Prescription which they do not wish renewed, should write on the bottom of such Prescription, 'Do Not Renew,' and also inform the patient of the fact, in every case."

3. "Resolved, That as the diagnosis and treatment of diseases belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the pharmacist for these responsible offices, he should, where it is practicable, refer applicants for medical aid to a Regular Physician."

The *Philadelphia County Medical Society* has also taken action in regard to the refilling of prescriptions by druggists without the order of the physician making the prescription, and other abuses which have been called to their attention. From a circular we clip the following:

The Committee on Hygiene and the Relations of the Profession to the Public, respectfully report as follows:

Dr. Geo. B. H. Swayze read before the society a paper, in which were discussed the injuries done to physicians by certain druggists to whom had been entrusted the dispensing of prescriptions of medical men. The statements brought forward led to presentations before the society of several resolutions designed to remedy the evils complained of. None of these were passed, but they were, with the whole subject, referred to the Committee on Hygiene and the Relations of the Profession to the Public.

Accordingly the committee met for deliberation. They had before them a report of the recent meetings of the Medico-Legal Society of this city, in which the same subjects were discussed, and also the comments of a pharmaceutical society, *Chicago Pharmacist*, and *American Journal of Pharmacy*. From these sources, and from the paper of Dr. Swayze, and the personal evidence before the committee, it appeared that there were special grievances laid at the door of pharmacists.

1. That the prescriptions sent to the shop of the druggists were renewed indefinitely, though the intention of the physician was that they should be filled but once.

2. That the druggists invaded the domain of the physician by themselves prescribing for the sick instead of awaiting the prescription of the physician.

3. That druggists were active agents disseminating proprietary medicines and nostrums.

In view, therefore, of the grievances mentioned, the committee reported the following resolutions for adoption by the society:

Resolved, That in the opinion of the Philadelphia County Medical Society, a druggist acts simply as an agent of a physician in compounding his pre-

scription, and that it is a breach of his proper obligation to the physician to renew without his directions, or furnish copies of any formulæ prescribed.

Resolved, That the members of this society will note which druggists commit such breaches of obligation, and dissuade their patients from taking prescriptions to them to be compounded.

Resolved, That the members of this society will endeavor to have their prescriptions compounded by apothecaries who do not exhibit signs or circulars, or otherwise encourage the use by the public of Patent or Proprietary Medicines.

The *College of Pharmacy* has also taken high grounds, we are pleased to be able to say, and have passed stringent resolutions in regard to pharmacists transcending their duties by prescribing for the sick, and refilling prescriptions without the direction of the physician. They advise physicians, when they do not wish a prescription to be renewed, to designate the fact by some mark or sign on the margin, or writing the words "Not to be refilled." Among other great pharmaceutical houses of the country who have signed an agreement to confine themselves to doing an exclusively legitimate business is the well known house of Parke, Davis & Co., of Detroit. They pledge themselves not to manufacture any proprietary or secret preparations, or give any encouragement to the manufacture or sale of them by others. This action on their part is in harmony with the high character they have always sustained.

We copy the following from an editorial in the *Medical Annals*, published at Albany, N. Y. The editor had under consideration "Legitimate Pharmacy Allied to Medicine."

"As we intimated above, all of our manufacturing pharmacists are not committed to these abuses. There are two honorable exceptions, and it behooves the medical profession to boldly extend the hand of fellowship and their patronage to those pharmaceutical houses who will affix their signature to a platform which any physician with due regard to his code of ethics, can conscientiously sustain. That there are pharmaceutical houses who have already taken this stand is a fact, and we have no doubt that others will follow in their wake when their attention is plainly called to the importance of doing so. We point with particular satisfaction to the names and records of Dr. E. R. Squibb, Brooklyn, and Messrs. Parke, Davis & Co., of Detroit. Concerning the former gentleman, it is unnecessary to make any remarks, as his name and record are too familiar with the medical profession to require our commendation. With regard to Parke, Davis & Co., however, in view of the fact that, as a Western house, their name has only been known to the Eastern profession within the past two years, we feel it our duty, as well as pleasure, to here make a profession of our entire confidence in the integrity of their methods. We have ourselves carefully watched their movements in the vicinity of Albany, have read with interest the printed platform upon which they work, and to which they affix their signature, and we sincerely hope that we may be able, ere long, to add the names of others in the manufacturing line who will assume a similar stand.

"Referring particularly to the policy of Parke, Davis & Co., in the intro-

duction of new remedies, we think that here again they merit the entire sympathy and assistance of the profession; investing large amounts in the collection and importation of those drugs which have earned a satisfactory reputation abroad, they place them upon the American market, subject wholly to the critical tests and observations of the medical profession, based upon samples which are freely and gratuitously distributed. If the drug is a failure, surely no one is the loser but the enterprising firm who have invested their capital upon the basis of the statements of physicians abroad. If the drug proves a success, as has been definitely established in the cases of *rhamnus purshiana*, *eucalyptus globulus*, coto bark, guarana, coca, yerba santa, and many others introduced by this firm, surely the profession and humanity are the gainers."

HOMŒOPATHY.—The editor of the *Med. Times*, of October 8, says: "That there can be no doubt that homœopathic belief is dying out. Even homœopathic believers," he continues, "are growing proportionately fewer in the world; but that real homœopathic faith dies faster than do its nominal believers." A number of homœopathic physicians of Cincinnati have admitted to us that they place but little reliance upon homœopathic principles in the treatment of disease.

The editor of the *Times* thus illustrates homœopathic principles: "Mustard may cause vomiting, when the vomiting already exists—it sometimes cures it, sometimes makes it worse. Every old woman knows that a tumbler of warm water will sometimes provoke the sick stomach into further action, sometimes settle it. When vomiting is from irritation, a sedative allays it; when from excessive depression the sedative makes it worse, while the irritant causes it to cease.

"The doctrines of the psora and of the infinitesimals are so obsolete as not to be worth discussing. The dogma of the similars is the homœopathic treasure of to day. Either it is a law of nature, or it is not a law. If it be a law it can have no exceptions. Now, when a homœopathic physician ceases to trust this law absolutely in his practice, he ceases to worship Hahnemann—his god is no more god."

The *Times* states it correctly when it says that regular and homœopath can not "meet," so long as the latter holds on to his dogmas. They can "meet" only when with the regular, he takes the ground that there are no therapeutic dogmas; when he has determined to get out of science in general, for the cure of diseases, all that can be had; when he recognizes that medicine, as a science,

is very imperfect, and consequently is largely empirical; and, therefore, is willing to eagerly seize upon, in the battle for life, anything that may promise assistance, whether it come from Choctaw or Hottentot, from old woman or young maiden, from homœopath, or allopath, or eclectic, from king or peasant, from savant or quack, from white, indian, or negro.

In scientific medicine, or in that which has already been garnered up as true as regards disease and its remedies, however it may have been discovered, there is no pathy or ism, no more than there is in mathematics, astronomy, geology, or entomology. A truth is a truth, and any change or modification of it is a departure from it into that which is false. There can not be allopathic truths and homœopathic truths. Whatever is observed to be a fact in the use of any remedy, in a disease, is a general one, and belongs to every one alike, whether he discovered it or some other person; and all the facts which are thus known, from all sources, constitute the so-called science of medicine of to-day. And as these facts are being added to every day, medicine is consequently progressive.

There is no fact in homœopathy that does not belong as much to the "regular" physician as to the homœopathic.

R. & J. BECK'S MICROSCOPES.—As we promised in our last issue we will resume the consideration of the microscopes of this house. Besides the "Economic" and "International," which we have already described, there are the "New National" and the "Ideal."

The "New National" is made either binocular or monocular. It has a mechanical stage, which many prefer, in consequence of being able with it to examine with certainty, escaping nothing, every portion of an object, or whatever may be under the glass cover of slide. It can be inclined to any degree from vertical to horizontal—the whole instrument being steady and free from tremor.

The stage is of glass, with complete rotation in the optic axis, upon the top of which is a sliding object-holder, very thin. Beneath the stage is a tube carrying all the substage apparatus, as the achromatic condenser, Wenham's parabola, polarizing apparatus.

This is certainly as beautiful an instrument as we have

ever seen. It is finely finished and is capable of all work. With such an instrument one's wants in the microscopic line, having, of course, suitable objectives, would be well supplied. The adjustments are all that can be desired—the fine adjustment consisting of a delicate micrometer screw and lever attachment, working with absolute freedom from all motion, and by which the very highest powers may be focussed with the greatest exactness. The coarse is by rack and pinion, with large milled heads, working with great smoothness and regularity.

| | |
|---|------|
| The price of this instrument, monocular, with one eye-piece and without objectives, | \$50 |
| Binocular, with one pair of eye-pieces and without objectives, | 75 |
| Monocular, with two eye-pieces, 1 inch and $\frac{1}{2}$ inch objectives, magnifying from 47 to over 600 diameters, | 85 |
| Binocular, fitted the same way, | 110 |

We can recommend this instrument as an exceedingly beautiful and efficient instrument.

Record of the Post-mortem Examination of the Body of President J. A. Garfield, made September 20, 1881, commencing at 4:30 P.M., eighteen hours after death, at Francklyn Cottage, Elberon, New Jersey.

In the last issue of the MEDICAL NEWS was printed the account of the *post-mortem* of PRESIDENT GARFIELD, which the surgeons in attendance published immediately after it was made. Since then another and fuller one has been written and published.

All of the viscera that were in any way involved in the wound were retained by the surgeons for subsequent examination, when they could be studied at leisure. The vertebræ were divided by the saw, so as to better exhibit the course of the ball. The ball, it will be recollected, passed through the upper portion of the first lumbar vertebra, injuring, to some extent, the last dorsal. These vertebræ, we understand, have been mounted for preservation. So also portions of the viscera.

Although, probably, a majority of our readers have read, in the newspapers, this last and completed description of the *post-mortem*, we yet publish it in the NEWS,

in order that it may be conveniently preserved for reference.

"Present and assisting: Dr. D. W. Bliss; Surgeon-General J. K. Barnes, U. S. Army; Surgeon J. J. Woodward, U. S. Army; Dr. Robert Keyburn, Dr. Frank H. Hamilton, Dr. D. Hayes Agnew, Dr. Andrew H. Smith, of Elberon (and New York), and Acting Assistant Surgeon D. S. Lamb, of the Army Medical Museum, Washington, D. C.

"Before commencing the examination, a consultation was held by these physicians, in a room adjoining that in which the body lay, and it was unanimously agreed that the dissection should be made by Dr. Lamb, and that Surgeon Woodward should record the observations made. It was further unanimously agreed that the cranium should not be opened. Surgeon Woodward then proposed that the examination should be conducted as follows:

"That the body should be viewed externally, and any morbid appearances existing recorded; that a catheter should then be passed into the wound, as was done during life, to wash it out, for the purpose of assisting to find the position of the bullet; that a long incision should next be made from the superior extremity of the sternum to the pubes, and this crossed by a transverse one just below the umbilicus; that the abdominal flaps thus made should then be turned back, and the abdominal viscera examined; that after the abdominal cavity was opened the position of the bullet should be ascertained, if possible, before making any further incision; and that, finally, the thoracic viscera should be examined.

"This order of procedure was unanimously agreed to.

"The examination was then proceeded with, and the following *external appearances* were observed:

"The body was considerably emaciated, but the face was much less wasted than the limbs. A preservative fluid had been injected by the embalmer, a few hours before, into the left femoral artery. The pipes used for the purpose were still in position. The anterior surface of the body presented no abnormal appearances, and there was no ecchymosis or other discoloration of any part of the front of the abdomen.

"Just below the right ear, and a little behind it, there was an ova-ulcerated opening, about half an inch in long diameter, from which some sanious pus was escaping, but no tumefaction could be observed in the parotid region.

"A considerable number of purpura-like spots were scattered thickly over the left scapula, and thence forward as far as the axilla. They ranged from one-eighth to one-fourth of inch in diameter, were slightly elevated and furfuraceous on the surface, and many of them were confluent in groups of two to four or more. A similar, but much less abundant, eruption was observed sparsely scattered over the corresponding region on the right side.

"An oval excavated ulcer about an inch long, the result of a small carbuncle, was seated over the spinous process of the tenth dorsal vertebra. Over the sacrum there were four small bed-sores, the largest about half an inch in diameter. A few acne pustules, and a number of irregular spots of post-mortem hypostatic congestion were scattered over the shoulders, back, and buttocks. The inferior part of the scrotum was much discolored by hypostatic congestion. A group of hemorrhoidal tumors, rather larger than a walnut, protruded from the anus.

"The depressed cicatrix of the wound made by the pistol-bullet was recognized over the tenth intercostal space, three and one-half inches to the right of the vertebral spines. A deep linear incision (made in part by the operation of July 24th, and extended by that of August 8th) occupied a position closely corresponding to the upper border of the right twelfth rib. It commenced posteriorly about two inches from the vertebral spines, and extended forward a little more than three inches. At the anterior extremity of this incision there was a deep, nearly square abraded surface about an inch across.

"A well-oiled flexible catheter, fourteen inches long, was then passed into this wound, as had been done to wash it out during life. More resistance was at first encountered than had usually been the case, but after several trials the catheter entered, without any violence, to its full length. It was then left in position, and the body disposed supinely for the examination of the viscera.

"The *cranium* was not opened.

"A long incision was made from the superior extremity of the sternum to the pubis, followed by a transverse incision crossing the abdomen just below the umbilicus. The four flaps thus formed were turned back and the abdominal viscera exposed. The subcutaneous adipose tissue divided by the incision was little more than one-

eighth of an inch thick over the thorax, but was thicker over the abdomen, being about one-fourth of an inch thick along the linea alba, and as much as one-half inch thick toward the outer extremity of the transverse incision.

"On *inspection of the abdominal viscera in situ*, the transverse colon was observed to lie a little above the line of the umbilicus. It was firmly adherent to the anterior edge of the liver. The greater omentum covered the intestines pretty thoroughly from the transverse colon almost to the pubes. It was still quite fat, and was very much blackened by venous congestion. On both sides its lateral margins were adherent to the abdominal parietes opposite the eleventh and twelfth ribs. On the left side the adhesions were numerous, firm, well organized, and probably old.* On the right side there were a few similar adhesions, and a number of more delicate and probably recent ones.

"A mass of black, coagulated blood covered and concealed the spleen and the left margin of the greater omentum. On raising the omentum it was found that this blood-mass extended through the left lumbar and iliac regions and dipped down into the pelvis, in which there was some clotted blood and rather more than a pint of bloody fluid.† The blood-coagula having been turned out and collected, measured very nearly a pint. It was now evident that secondary hemorrhage had been the immediate cause of death, but the point from which the blood had escaped was not at once apparent.

"The omentum was not adherent to the intestines, which were moderately distended with gas. No intestinal adhesions were found other than those between the transverse colon and the liver, already mentioned.

"The abdominal cavity being now washed out as thoroughly as possible, a fruitless attempt was made to obtain some indication of the position of the bullet before making any further incision. By pushing the intestines aside, the extremity of the catheter, which had been passed into the wound, could be felt between the peri-

* These adhesions, and the firm ones on the right side, as well as those of the spleen, possibly date back to an attack of chronic dysentery, from which the patient is said to have suffered during the civil war.

† A large part of this fluid had probably transuded from the injecting material of the embalmer.

toneum and the right iliac fascia; but it had evidently doubled upon itself, and, although a prolonged search was made, nothing could be seen or felt to indicate the presence of the bullet, either in that region or elsewhere.

"The abdominal viscera were then carefully removed from the body, placed in suitable vessels, and examined *seriatim*, with the following results:

"The adhesions between the liver and the transverse colon proved to bound an *abscess-cavity* between the under-surface of the liver, the transverse colon, and the transverse mesocolon, which involved the gall bladder, and extended to about the same distance on each side of it, measuring six inches transversely and four inches from before backward. This cavity was lined by a thick pyogenic membrane, which completely replaced the capsule of that part of the under-surface of the liver occupied by the abscess. It contained about two ounces of greenish yellow fluid—a mixture of pus and biliary matter. This abscess did not involve any portion of the substance of the liver except the surface with which it was in contact, and no communication could be detected between it and any part of the wound.

"Some recent peritoneal adhesions existed between the upper surface of the right lobe of the liver and the diaphragm. The *liver* was larger than normal, weighing eighty-four ounces; its substance was firm, but of a pale-yellowish color on its surface and throughout the interior of the organ, from fatty degeneration. No evidence that it had been penetrated by the bullet could be found, nor were there any abscesses or infarctions in any part of its tissue.

"The *spleen* was connected to the diaphragm by firm, probably old, peritoneal adhesions. There were several rather deep congenital fissures in its margins, giving it a lobulated appearance. It was abnormally large, weighing eighteen ounces; of a very dark lake-red color, both on the surface and on section. Its parenchyma was soft and flabby, but contained no abscesses or infarctions.

"There were some recent peritoneal adhesions between the posterior wall of the *stomach* and the posterior abdominal parietes. With this exception no abnormalities were discovered in the stomach or *intestines*, nor were any other evidences of general or local peritonitis found besides those already specified.

"The *right kidney* weighed six ounces, the *left kidney* seven. Just beneath the capsule of the left kidney, at about the middle of its convex border, there was a little abscess one-third of an inch in diameter, and there were three small serous cysts on the convex border of the right kidney, just beneath the capsule; in other respects the tissue of both kidneys was normal in appearance and texture.

"The *urinary bladder* was empty.

"Behind the right kidney, after the removal of that organ from the body, the dilated *track of the bullet* was dissected into. It was found that from the point at which it had fractured the right eleventh rib (three and one-half inches to the right of the vertebral spines) the missile had gone to the left, obliquely forward, passing through the body of the first lumbar vertebra and lodging in the adipose connective tissue immediately below the lower border of the pancreas, about two and one-half inches to the left of the spinal column, and behind the peritoneum. It had become completely encysted.

"The track of the bullet between the point at which it had fractured the eleventh rib and that at which it entered the first lumbar vertebra was considerably dilated, and the pus had burrowed downward through the adipose tissue behind the right kidney, and thence had found its way between the peritoneum and the right iliac fascia, making a descending channel which extended almost to the groin. The adipose tissue behind the kidney in the vicinity of this descending channel was much thickened and condensed by inflammation. In the channel, which was found almost free from pus, lay the flexible catheter introduced into the wound at the commencement of the autopsy; its extremity was found doubled upon itself, immediately beneath the peritoneum, reposing upon the iliac fascia, where the channel was dilated into a pouch of considerable size. This long descending channel, now clearly seen to have been caused by the burrowing of the pus from the wound, was supposed during life to have been the track of the bullet.

"The last dorsal, together with the first and second lumbar vertebra and the twelfth rib, were then removed from the body for more thorough examination.

"When this examination was made, it was found that the bullet had penetrated the first lumbar vertebra in the

upper part of the right side of its body. The aperture by which it entered involved the intervertebral cartilage next above, and was situated just below and anterior to the intervertebral foramen, from which its upper margin was about one-fourth of an inch distant. Passing obliquely to the left, and forward to the upper part of the body of the first lumbar vertebra, the bullet emerged by an aperture, the center of which was about one-half inch to the left of the median line, and which also involved the intervertebral cartilage next above. The cancellated tissue of the body of the first lumbar vertebra was very much comminuted and the fragments somewhat displaced. Several deep fissures extended from the track of the bullet into the lower part of the body of the twelfth dorsal vertebra. Others extended through the first lumbar vertebra into the intervertebral cartilage between it and the second lumbar vertebra. Both this cartilage and that next above were partly destroyed by ulceration. A number of minute fragments from the fractured lumbar vertebra had been driven into the adjacent soft parts.

"It was further found that the right twelfth rib also was fractured at a point one and one-fourth inch to the right of the transverse process of the twelfth dorsal vertebra; this injury had not been recognized during life.

"On sawing through the vertebra, a little to the right of the median line, it was found that the spinal canal was not involved by the track of the ball. The spinal cord, and other contents of this portion of the spinal canal, presented no abnormal appearances. The rest of the spinal cord was not examined.

"Beyond the first lumbar vertebra, the bullet continued to go to the left, passing behind the pancreas to the point where it was found. Here it was enveloped in a firm cyst of connective tissue, which contained, besides the ball, a minute quantity of inspissated, somewhat cheesy pus, which formed a thin layer over a portion of the surface of the lead. There was also a black shred adherent to a part of the cyst-wall, which proved, on microscopical examination, to be the remains of a blood-clot. For about an inch from this cyst the track of the ball behind the pancreas was completely obliterated by the healing process. Thence, as far backward as the body of the first lumbar vertebra, the track was filled with coagulated blood, which extended on the left into an

irregular space rent in the adjoining adipose tissue behind the peritoneum and above the pancreas. The blood had worked its way to the left, bursting finally through the peritoneum behind the spleen into the abdominal cavity. The rending of the tissues by the extravasation of this blood was undoubtedly the cause of the paroxysms of pain which occurred a short time before death.

"This mass of coagulated blood was of irregular form, and nearly as large as a man's fist. It could be distinctly seen from in front through the peritoneum, after its sight behind the greater curvature of the stomach had been exposed by the dissection of the greater omentum from the stomach, and especially after some delicate adhesions between the stomach and the part of the peritoneum covering the blood-mass had been broken down by the fingers. From the relations of the mass as thus seen, it was believed that the hemorrhage had proceeded from one of the mesenteric arteries, but as it was clear that a minute dissection would be required to determine the particular branch involved, it was agreed that the infiltrated tissues and the adjoining soft parts should be preserved for subsequent study.

"On the examination and dissection made in accordance with this agreement, it was found that the fatal hemorrhage proceeded from a rent, nearly four-tenths of an inch long, in the main trunk of the splenic artery, two and one-half inches to the left of the cœliac axis. This rent must have occurred at least several days before death, since the everted edges in the slit in the vessel were united by firm adhesions to the surrounding connecting tissue, thus forming an almost continuous wall bounding the adjoining portion of the blood-clot. Moreover, the peripheral portion of the clot in this vicinity was disposed in pretty firm concentric layers. It was further found that the cyst below the lower margin of the pancreas, in which the bullet was found, was situated three and one-half inches to the left of the cœliac axis.

"Besides the mass of coagulated blood just described, another, about the size of a walnut, was found in the greater omentum, near the splenic extremity of the stomach. The communication, if any, between this and the larger hemorrhagic mass could not be made out.

"The examination of the *thoracic viscera* resulted as follows:

"The *heart* weighed eleven ounces. All the cavities were entirely empty except the right ventricle, in which a few shreds of soft, reddish coagulated blood adhered to the internal surface. On the surface of the mitral valve there were several spots of fatty degeneration; with this exception the cardiac valves were normal. The muscular tissue of the heart was soft, and tore easily. A few spots of fatty degeneration existed in the lining membrane of the aorta just above the semilunar valves, and a slender clot of fibrin was found in the aorta, where it was divided, about two inches from these valves, for the removal of the heart.

"On the right side slight pleuritic adhesions existed between the convex surface of the lower lobe of the lung and the costal pleura, and firm adhesions between the anterior edge of the lower lobe, the pericardium, and the diaphragm. The *right lung* weighed thirty-two ounces. The posterior part of the fissure between its upper and lower lobes was congenitally incomplete. The lower lobe of the right lung was hypostatically congested, and considerable portions, especially toward its base, were the seat of broncho pneumonia. The bronchial tubes contained a considerable quantity of stringy muco-pus; their mucous surface was reddened by catarrhal bronchitis. The lung-tissue was œdematous,* but contained no abscesses or infarctions.

"On the left side the lower lobe of the lung was bound behind to the costal pleura, above to the upper lobe, and below to the diaphragm, by pretty firm pleuritic adhesions. The *left lung* weighed twenty-seven ounces. The condition of the bronchial tubes and of the lung tissue was very nearly the same as on the right side, the chief difference being that the area of the broncho pneumonia in the lower lobe was much less extensive in the left lung than in the right. In the lateral part of the lower lobe of the left lung, and about an inch from its pleural surface, there was a group of four minute areas of gray hepatization, each about one-eighth of an inch in diameter. There were no infarctions and no abscesses in any part of the lung tissue.

"The surgeons assisting at the autopsy were unanimously of the opinion that, on reviewing the history of the case in connection with the autopsy, it is quite evident that

*A part, at least, of this condition was doubtless due to the extravasation of the injecting fluid used by the embalmer.

the different suppurating surfaces, and especially the fractured spongy tissue of the vertebra, furnish a sufficient explanation of the septic conditions which existed during life.

"About an hour after the post-mortem examination was completed, the physicians named at the commencement of this report assembled for further consultation in an adjoining cottage; a brief outline of the results of the post-mortem examinations was drawn up, signed by all the physicians, and handed up to Secretary J. Stanley Brown, who was requested to furnish copies to the newspapers. D. W. BLISS. J. J. WOODWARD. D. S. LAMB.

J. R. BARNES. ROBERT REYBURN."

ACTION OF COFFEE AND SUGAR ON THE STOMACH.—In a paper presented to the Societe de Biologie (*Rev. Med.*), M. LEVEN states that coffee, so far, as is often supposed, from accelerating the digestive process of the stomach, rather tends to impede this. When thirty grammes of coffee, diluted in one hundred and fifty of water, is given to a dog, which is killed five hours and a half afterward, the stomach is found pale, its mucous surface being anæmic, and the vessels of its external membrane contracted. The whole organ exhibits a marked appearance of anæmia. Coffee thus determining anæmia of the mucous membrane, preventing rather than favoring vascular congestion, and opposing rather than facilitating the secretion of gastric juice, how comes it that the sense of comfort is procured for so many people who are accustomed to take coffee after a meal? A repast, in fact, produces, in those whose digestion is torpid, a heaviness of the intellectual faculties, and embarrassment of the power of thinking; and these effects, and the disturbance of the head, are promptly dissipated by the stimulant effect which the coffee produces on the nervous centers, as shown by experiments with casein. Coffee and tea, when taken in excess, are a frequent cause of dyspepsia, for the anæmic condition of the mucous membrane being periodically renewed, a permanent state of congestion is at last produced, which constitutes dyspepsia. Sugar, which with many doctors has a bad reputation, is an excellent aliment, which assists digestion, and should not be proscribed in dyspepsia. By experiment, digestion of meat is found to take place much more completely when sugar is added. Coffee exerts both a local and general action, operating

locally, by means of its tannin, by diminishing the caliber of the vessels, but acting on the general economy by exciting the nervous centers and the muscular system. It renders digestion slower, and is only of good effect by relieving the feeling of torpor after meals. Its injurious action on digestion may be corrected by adding sugar, so as to counterbalance its effects on the mucous membrane. This adding sugar to coffee is not only a pleasant practice, but one contributing to digestion.

LEPROSY IN CHINA.—Leprosy exists among the Chinese to a greater extent than is generally supposed. It is one of the most dreaded of diseases in China. There is a current belief there, that if a person afflicted with it can kill a young girl and eat her heart, the evidences of the disease will not appear in the face, and that he can thus escape being known as a leper. This notion has probably been the cause of many murders. The leper's demand for alms is seldom refused, most Chinamen dreading the victim of this loathsome affection, and fearing that, if denied assistance, he may in some way infect them with his leprosy, as, for instance, by tainting their food.

PROF. JOHN E. CROWE, M. D., one of the most popular teachers and practitioners of medicine in Louisville, died suddenly in the office of Prof. Coomes, on the — of September, 1881. Dr. Crowe had suffered with an affection of the throat for several weeks, but had not considered it a matter of any serious moment until within a few hours of his death. The fact that he was engaged actively in practice up to the hour of his death, makes it extremely probable he died of either apoplexy, or some unrecognized cardiac lesion. We hope to be able soon to present our readers with a brief biographical sketch of him.

THE NORTH AMERICAN REVIEW, for November, has just been received. The contents are: "Presidential Inability," Lyman Trumbull, Judge Thos. M. Cooley, Benj. F. Butler and Prof. Theodore W. Dwight; "England's Hereditary Republic," by the Marquis of Blandford; "The Appointing Power," by Senator Geo. F. Hoar; "The Christian Religion—Part II.," by Rob't G. Ingersoll.

There is no magazine of higher standing published than this one. It is now in its sixty-seventh year.

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ORIGINAL CONTRIBUTIONS.

Connection of Cardiac and Renal Disease.*

BY ROBERT T. EDES, M. D.

THE connection of cardiac and renal disease has almost from the beginning of the more accurate knowledge of the latter been a very interesting theme of speculation, and of late years the subject of some theories very important as to etiology and diagnosis.

Some of these, which, although undoubtedly expressing much truth, have been pushed farther than the facts will warrant, I have ventured to criticise, partly in the light of literature, and partly in that of my own experience and observation. Hypertrophy of the heart without valvular lesion was, at a very early period, recognized by Dr. Bright himself as a frequent accompaniment of the renal disease afterward known by his name. And not only this; he had already perceived that it was much the more common in that form now generally known as contracted, granular, or cirrhotic kidney, or interstitial nephritis, although he placed a different interpretation upon the coincidence from that now generally received. "It is observed," he says, "that hypertrophy of the heart seems in some degree to have kept pace with the advance of the disease in the kidneys; for in the majority of cases, where the muscular power of the heart was increased, the hardness and contraction of the kidneys bespoke the probability of a long continuance of the disease. Six cases are noted in which the heart was soft and flaccid, and four in which it was

*Read before the Boston Society for Medical Improvement, May 9, 1881.

unusually small, and in most of these, though not in all, the disease of the kidneys had not proceeded to the stage of contraction and hardness."

As knowledge of renal pathology increased, it was perceived that this statement of Dr. Bright applied not to stages but to kinds of degeneration, and at present it is generally admitted that although we may occasionally find a hypertrophied heart associated with a "large white" kidney, or a contracted kidney with a heart not enlarged, yet the connection between the thickening of the heart muscle and the increase of connective tissue in the kidney is a very constant one.

Dr. Bright supposed the hypertrophy to be a sequence of the renal disease, and suggested two explanations. The first, which he favored himself, assumed, like one set of the more modern theories, an increased resistance to the passage of blood through the capillaries, and hence increased work for the heart and increase of its muscular power. The resistance to the blood was due to altered chemical relations with the capillary walls, brought about by a failure of the kidneys to remove excrementitious products. The second explanation was the directly irritant action of this same vitiated blood upon the heart itself.

The first theory, which certainly had much plausibility so long as the contracted kidney was regarded as the latest stage of the "large white," or mottled, falls of itself to the ground when we find that the hypertrophy is associated *almost* exclusively with a form of the disease which, so far as we can judge from the symptoms and the analysis of the urine, is attended with no more, and probably even less, difficulties in the way of excretion than the other forms where no hypertrophy is found.

It has been clearly shown that in many cases contracting kidneys, although furnishing a urine in which the *percentage* of urea is decreased, fully make up the deficiency by an increased quantity.

On the other hand, those affections, such as simple atrophy or atrophy with dilatation (hydronephrosis), which arise from disease in the urinary passages, rarely give rise to hypertrophy of the heart.

Experiments have recently been made in which a hypertrophy of the heart was observed to follow removal or functional destruction of one kidney. In young animals

the remaining kidney usually increased in size and weight, so as to compensate for the loss; but where this failed to take place, the heart hypertrophied, in order, so the experimenters suppose, to drive the blood more rapidly through it, making up for loss of secreting surface by increased velocity.

We certainly have here some conditions of human pathology not very remotely counterfeited, and yet the experiments do not help us much in accounting for the connection we desire to trace.

The experiments most closely resemble those cases in which atrophy of one kidney is the result of partial or total occlusion of its ureter, in which, however, hypertrophy of the heart seldom occurs.

It is remarked by Senator that persons with renal calculi may be in good health, may eat enough to furnish an abundant supply of urea, and are beside liable to attacks of partial suppression of urine.

Consequently, he says, that next to the forms of chronic nephritis, of all chronic urinary diseases, hypertrophy of the heart develops itself most rapidly in connection with stone in the kidney. After the loss of one kidney, if the nutrition is not interfered with, the development of hypertrophy depends solely upon whether the remaining kidney is able to perform the duties of both.

This compensation on the part of the healthy kidney is, however, usually very complete, as is shown, for instance, in Simon's cases of extirpation of one kidney. In many cases, at least, this is a functional compensation merely, not attended with hypertrophy of the other kidney or of the heart.

A case where nearly total destruction of one kidney was produced, not by a calculus, but by constriction of its ureter in its passage through the base of the bladder, was reported here by the chairman some weeks ago. The remaining kidney was not noticeably enlarged, nor was the heart.

It might, however, be fairly objected that in this case the condition of the patient's nutrition was such as to forbid anything like hypertrophy.

A case which corresponds more nearly to the experimental conditions was the following:

A middle-aged lady, nervous and peculiar for years, died of an acute, probably pyemic, attack, originating in

an inflamed ovary. The left ureter was impervious, and the left kidney, filled with a putty-like mass, had evidently been for a long time useless. The right kidney was rather large, with somewhat granular epithelium, but was not decidedly hypertrophied. The heart was not hypertrophied.

Both Grutzner and Litten found injection of urea into the blood to raise the pressure, but the latter was unable to produce any hypertrophy of the heart by a daily repetition of the process. In these experiments, however, the kidneys were intact, and it has been very properly remarked that the retention of so diffusible a substance as urea, when the kidneys are healthy and excreting a full amount of water, is highly improbable.

In parenchymatous nephritis, however, these conditions do not hold, and hence it is possible or even probable that in those few cases of this form of disease in which hypertrophy is observed, it is traceable to the retention of urinary constituents, of which urea is the chief but perhaps not the only important one. Senator applies exactly the theory of Bright to a small minority of cases.

These observations, however, do not go far toward establishing this theory in *interstitial* nephritis, where the hypertrophy is the rule and not the exception; for although we have the two ends of the chain, hypertrophy of the heart and loss of secreting substance, the same or similar in the two sets of cases, the connecting link, accumulation from non-excretion of urea and other products, is not only not demonstrated, but can, in many cases, probably long after hypertrophy is developed, be proved to be absent.

Ewald, indeed, who adopts the theory of Bright for all cases of hypertrophy, speaks of a higher percentage of urea being found in the blood in interstitial nephritis than in parenchymatous or in other diseases, but this can certainly have been true only in the latter stages. Bartels has shown very clearly that the polyuria fully makes up for a deficient percentage of urea, and also speaks of many cases where it could not be obtained from the blood, although all of his analyses were made toward the last of the disease.

The theory of Traube was mechanical. He supposed that the resistance by which the tension, and consequently the work, of the heart was increased, was due to a dimin

ished capillary area in the kidneys. Aside from the improbability that obstruction of only two, and those not the largest, branches of the abdominal aorta would so permanently raise the pressure as to give rise to cardiac hypertrophy, it is doubtful if any great hindrance exists to the flow of blood even through a considerably contracted kidney. The greatly increased flow of light urine shows that the circulation must be going on without marked hindrance. Buhl has shown the development of a collateral circulation, both in the kidney itself and in the capsule and surrounding tissues, to compensate for the atrophy gradually taking place in the interlobular arteries and Malpighian corpuscles. The explanation of Traube is generally recognized as insufficient.

Dr. Gull and Dr. Sutton put a new phase upon the question when they showed the existence of thickening in the arterioles, not of the kidney alone, but throughout the body. This thickening might undoubtedly be a sufficient cause for cardiac hypertrophy, but the proportion of cases in which the renal and cardiac disease coincide, without any disease of the arteries, is, although not very great, too large to be overlooked, and it is by no means certain that in many others the arterial disease precedes that of the heart.

Dr. George Johnson had previously called attention to the thickened muscular coat of the small arteries in the kidneys, a hypertrophy which he referred to a stop-cock action on their part, checking the access of diseased blood to the tissues. He held the changes afterward observed by Gull and Sutton to be the results of the method of preparation, but several observers have confirmed their views so far as the existence of a general arterial disease is concerned. Its intimate connection with interstitial nephritis, however, is not so generally admitted, and it is pointed out by Ewald that the disease found in the small vessels of the kidneys is not the same.

The change somewhat vaguely described by Gull and Sutton as arterio-capillary fibrosis is considered by later writers as endarteritis of the smallest arteries.

Somewhat connected with these observations, but having rather a clinical than a pathological interest, are the views of Mahomed. If correctly representing the facts they are of the highest practical importance, and even if somewhat exaggerated, as I think they are, they are de-

serving of careful study for purposes of prognosis or prophylaxis.

They consist chiefly in the recognition of the pulse of high tension, which has been long observed as a frequent concomitant, as the essential and earliest symptom in what he calls Bright's disease. The significance of the name, however, he greatly changes, both in the way of omission and addition; for while he excludes those forms of renal disease in which the epithelium is chiefly affected and shrinking has not taken place, forms which were certainly described and figured by Dr. Bright, on the other hand he talks of cases of *Bright's* disease in which the *renal* lesion does not exist. The propriety of such a very forced change in the generally accepted and, as it seems to me, natural application of the name, is more than doubtful.

What Dr. Bright described and figured ought to be Bright's disease. If Mahomed has been successful in establishing the existence of a well-marked clinical and pathological group, in which some cases of renal disease and some other cases in which renal disease does *not* exist are both included, it ought to be called by the name not of Bright, but of Mahomed, just as some of the Germans have christened the arterio-capillary fibrosis, which may or may not be connected with nephritis, Gull-Sutton's disease.

According to Mahomed, this increased arterial tension, which is most easily and certainly recognized by the sphygmograph, is due to increased resistance to the passage of poisoned blood through the capillaries, the poison being generated by scarlatina, pregnancy, lead, alcohol, gout, and "other well-known causes of Bright's disease," among which he would probably include cold and dampness. Hence hypertrophy of the heart.

This view differs from that one of Dr. Bright's alternatives which we have already discussed in the sequence of phenomena. According to Bright it was—renal disease, poisoning of blood from imperfect depuration, increased resistance, hypertrophy of heart.

According to Mahomed we have *first* the blood poisoning and obstruction, and afterward increased tension, hypertrophy of the heart, and arterial and renal disease.

Another explanation is closely allied to the second

alternative of Dr. Bright, though with a similar reversal of cause and effect.

It is that offered by Debove and Letulle in Paris, and Buhl in Munich.

According to this, a myocarditis coexisting with, but not dependent directly upon, the renal lesion gives rise to the hypertrophy and finally to arterial changes.

Debove and Letulle speak of this interstitial myocarditis, the increase of connective tissue in the heart, as demonstrable chiefly in the papillary muscles, but frequently to be found in other parts of the heart by hardening and thin sections.

Buhl relies rather on marks of old endocarditis and pericarditis, not affecting the valvular integrity of the organ, to prove the probable former existence of muscular inflammation.

This leads in the first place to simple dilatation, but afterward, partly by the increased nutritive activity which usually follows inflammation, but still more by the disproportion which is thus made to exist between the capacity of the dilated ventricle and the diameter of the undilated aortic orifice, to the greater or less degree of hypertrophy. The labor of the ventricle, and consequently the tendency to hypertrophy, is increased, according to Buhl, though I confess I can not see why, by the anæmia, so constantly present.

The statements of Debove and Letulle as to the frequent occurrence of interstitial myocarditis have hardly excited as yet attention enough to be fully tested in the way which they demand. A mere naked-eye inspection of the heart without preparation is not sufficient to disprove the existence of this lesion, and the silence of autopsy records, even minute and careful ones, where myocarditis has not been specially looked for, can therefore count for but little as evidence.

It is fair to suppose, however, that a case reported in Paris during the year in which these observers published some of their results was subjected to sufficient scrutiny to make the statement of "no cirrhosis" of the heart of some value. Such a case was reported by Barie and Du Castel, in the *Progres medical* (1879, page 467). It was a typical case of interstitial nephritis, with the *bruit de galop*, uræmia, anæmia, and Cheyne-Stokes respiration, the granular kidneys weighing 115 and 150 grammes,

with arteries thickened and stiff. The heart weighed 810 grammes (27 ounces), and it is expressly stated that there was no fatty degeneration or cirrhosis.

The view of Buhl, who seeks to prove myocarditis, not by a remaining hypertrophy of fibrous tissue, but by traces of superficial inflammation, can not very easily be either accepted or rejected. He himself admits that even these traces are absent in twenty per cent. out of the ninety-two per cent. in which hypertrophy of the heart is found.

The very frequent occurrence of arterial and cardiac disease, beside hypertrophy, is a fact not generally overlooked, but possibly not estimated at its real importance. Of fifty-eight cases of interstitial nephritis of which I have notes, in forty-six hypertrophy of the heart was present, and of these twenty were noted as having some other cardiac or vascular lesion—in the majority of cases athroma.

I do not in the least believe that this last figure at all represents the actual number of cases in which slighter lesions were present, but were not noted. It seems to me a rare thing, though I can not speak by the book, to find a case of cirrhotic kidney with hypertrophy of the heart in which no other lesion evident to the naked eye is present.

Buhl describes the hypertrophy of the heart as usually beginning in a definite attack of subacute carditis, which may last six or eight weeks, or even one-fourth or one-half of a year. It is as impossible to deny that this may take place as to affirm that it always does. The symptoms of myocarditis are so obscure that if it occur uncomplicated with either peri- or endo-carditis, it may perfectly well fail of recognition, or even of giving rise to a train of symptoms which the most minute inquiry afterward can show to be at all characteristic. Buhl does not intimate upon what clinical basis this statement is founded.

Another possible link between the two affections may be found in certain nervous lesions recently described.

Da Costa and Longstreth have found in many cases of renal disease, and especially with the contracting kidney, that a fibroid thickening with atrophy of cells is present in the renal ganglia. Banti, without knowledge of Da Costa and Longstreth's observations, has fully confirmed their data.

Thoma has pointed out alterations of the nervous ganglia in valvular disease of the heart: in slighter cases

hyperæmia and "granulating" inflammation, in older ones interstitial inflammation and increase of connective tissue, with fatty and pigmentary degeneration of cells.

Mahomed admits that the increased tension which, according to his theory, is at the bottom of the cardio-vascular changes, may in many cases be of nervous origin; and Dr. Clifford Allbutt has pointed out the frequency of mental strain and depression as a cause of granular atrophy. The existence of high tension in several nervous affections will be noted in some of the sphygmograms exhibited.

Pathological anatomy alone can hardly decide which of these theories, if any, most correctly explains the facts. The coincidence of renal, cardiac and arterial disease in the later stages being admitted, much must depend upon the time at which they are severally developed, or rather at which they can be shown to exist; and this, except in the few accidental cases of death at early periods of the disease, is a matter for clinical observation.

Mahomed's theory depends largely upon his observations of the pulse by means of the sphygmograph; and I have ventured to compare with his conclusions, which have been very distinctly expressed and carefully recorded, some of my own observations upon the pulse of Bright's disease and that in some other affections, as well as variations of a presumably healthy pulse.

Dr. Mahomed says, "The pulse tracing of each individual in health possesses a constant form dependent chiefly upon the constitution and general habits; it may be hard or soft, large or small, good or bad tone, excitable or phlegmatic, and is as characteristic as the tone of voice or mode of carriage, but in disease the pulse loses this individual form, and varies with the general conditions."

This may be true within certain limits and in regard to certain points, but in regard to the tension, which is the point upon which he lays chief stress in the diagnosis of Bright's disease, it does not correspond with my observations, chiefly upon my own pulse. This varies greatly from time to time, from certain reasons, some of which only are known to me.

Exercise produces a decided and great fall of tension. So does in a less degree a full meal. On the other hand, rest or quiet raises it; and the same is true, as has already been pointed out by Marey and others, of cold. In my own case, sitting at my writing-table for an hour or two

in the evening, especially if the room becomes a little chilly, gives a tracing of high tension with tolerably strong action of the heart. I have found the same condition after reading in bed for an hour, especially, I recollect, on one occasion, when my feet did not get warm for the whole time. A cold bath sends the tension rapidly up, but if the reaction take place fully, this condition lasts but a short time.

I have sometimes thought that possibly a diurnal variation might be made out, the tension being lower during the forenoon and middle of the day, and higher in the evening, night, and early morning.

These periods would not be very far from corresponding with the diurnal periods of high and low body temperature, but it would not be easy to separate such a fluctuation from the effects of exercise, food, and external temperature.

The two propositions of Mahomed, which are most strictly of a clinical character, most accessible to criticism, and in fact, really constitute the foundation of his theory, are as follows:

"High tension may exist without renal disease, though rarely.

"Renal disease may exist without high tension, but also rarely."

If it can be shown that these exceptions are very far from being rare, it seems to me that the practical importance of the frequent coincidence of high tension and *renal* disease is greatly diminished, whatever we may think of the importance of the new disease set up in place of the old.

It is obviously necessary to establish some sort of standard as to what shall be called high or too high tension, as indicated by the sphygmograph. Certain arbitrary rules as to the measurement of the tracing can not be too strictly applied, and would often, without some allowance, lead to error; for the form varies more or less with the construction of the instrument, more especially the stiffness of the spring which receives the first impulse of the artery, and also with the pressure brought to bear. The tracings which I have taken mostly differ from those of Mahomed in their lesser height, but exhibit all the points usually brought out by any instrument. They resemble in their degree of amplification more those of Marey than

of Mahomed. The prolongation of the tidal wave, the height of the aortic notch, and the development of dicrotism can, however, all be studied upon them, and I think they can, with a little care, be very fairly compared with those of Mahomed. The pressure I have never taken the trouble to record, because, first, I have usually varied it enough to be sure that I was getting the best tracing; and secondly, because the pressure marked on Pond's instrument does not indicate the pressure brought to bear on the *artery*, but only on adjacent tissues, such as the tendon of the flexor carpi radialis and the radius itself, to say nothing of skin and fascia.

Tracings taken from presumably healthy persons vary within quite wide limits as to tension. In every group of such persons of whom I have tracings, I find several with marks supposed to indicate a tension higher than the average or higher than normal. Some are not easily to be distinguished from those taken in chronic nephritis.

Among twenty medical students and ten or a dozen physicians of various ages, all presumably in good health, may be found quite a number of tracings with the prolongation of the summit, which is supposed to indicate the slower forcing of the blood into the arteries against a high pressure, and in some the elevation of the aortic notch and flattening of the dicrotic wave, which indicate a tense condition of the arterial walls.

Of some twenty or more patients at the Adams Nervine Asylum, mostly young or middle-aged women, in none of whom was any renal disease detected, nearly every one showed similar characteristics. These I do not speak of as healthy, but simply as non-renal and non-cardiac.

Two professional men, aged about sixty and sixty-five, whose tracings, taken nearly two years ago, showed such marks of high tension, that, having formed my opinion rather from reading than from my own observation, I took special pains not to point out their supposed meaning, are still actively engaged in laborious practices, certainly retain unimpaired cheerfulness and excellent appetites, and, so far as one can judge without impertinent inquiries, are not in the least troubled with any symptoms of renal derangement. Of my own pulse I have already spoken.

An upholder of Mahomed's theory would probably remark upon these observations that what I have taken to

be the pulse of high tension is not really so, or rather is not *high enough* to have diagnostic importance.

My reply would be: I am aware that in these cases we have not the marks of *extreme* high tension, but that it is fair to make use of them in criticising Mahomed's theory may be shown by a comparison of the tracings actually given by him as characteristic with those I shall exhibit. I think that upon the basis of his tracings as well as my own we may make four classes:

(1.) Extreme high tension, found chiefly in acute nephritis, sometimes in chronic, in some doubtful cases. (In angina pectoris?)

(2.) Moderately high tension, found in chronic nephritis, in many nervous diseases, in pregnancy, often in health.

(3.) Moderately low tension, found in many diseases, but chiefly in health.

(4.) Very low tension, in debility, in fever, soon after vigorous exercise, after nitrite of amyl.

The tracings given by Mahomed, are nearly all of a very moderate tension with the exception of those from acute cases. We frequently miss, even in those selected to prove the correctness of his views, the prolongation of the tidal wave, as well as the high position of the aortic notch, and the more or less complete suppression of dicrotism. It is of course higher in some than in others, but in none does it present the extreme characteristics observable in acute cases.

The traces from cases of scarlatinal nephritis or, perhaps, scarlet fever, I can parallel from acute non-scarlatinal nephritis, and these are, undoubtedly, of high tension, the *pulsus tardus et durus*, but with the improvement in the symptoms, or rather as their acuteness progresses, either toward recovery or toward a chronic stage, this high tension subsides, as is seen both in Mahomed's tracings and in cases of my own.

In the chronic cases, even the most typical, of interstitial nephritis, those in which we should expect the most pronounced high pressure, we find it only to an extent which can easily be paralleled, not, as Mahomed says, "rarely," but in various nervous diseases, including simple neurasthenia (*sit venia verbo*), and often in what, unless symptoms are very latent and remain so for years, we can not help calling excellent health. This, however, it is fair to say, is admitted by Mahomed himself.

It is true that a pulse of somewhat high tension is exceedingly common in chronic renal inflammation, possibly almost constant, except when certain special conditions, notably great debility or marked fever, are present, as we see in that very frequent combination of phthisis and nephritis, or, as will be noticed in the sphygmograms from H. C. W., in intercurrent gouty attacks; but the position of Mahomed, that the "signs of high tension or overfullness of the arteries are the *only pathognomonic signs of chronic Bright's disease*," is absolutely untenable. If he means *extreme* high tension, we find it chiefly in the *acute cases*, those in which the diagnosis is easiest and the prognosis most favorable; if *moderately* high tension, we find it too often elsewhere to be pathognomonic of anything. Suspicious is the strongest word which can properly be applied to it.

This may, perhaps, be as well shown by many various tracings as by any extended description. I have placed, first, well-marked cases of nephritis, the basis of the diagnosis being in brief; next, the doubtful; and, next, a number of other cases in which nearly the same condition of high tension is found, and in which the disease was of an entirely different character. Three cases of acute nephritis close the list.

I do not wish to deny to this symptom all value either in diagnosis or prognosis, but I think that Mahomed has been led to overestimate it by his too exclusive consideration of acute nephritis, in which the maximum of high tension is found, and its subsequent passage in the chronic stage, and that in tracing a necessary connection between various other conditions of ill health, in which a moderately but still too high tension is found, and the fully developed granular kidney, he is going far beyond a sound basis of clinical observation.

Of course, he can, if he chooses, define Bright's disease as that condition in which too high arterial tension is found, and we shall then have no difficulty in admitting that high tension is pathognomonic of it; but such a disease, whatever its name, would coincide only here and there, and not of necessity, with the affection described by Dr. Bright, and recognized under this name as a well-marked clinical type by the profession generally.

Acute nephritis, beginning with high tension, may undoubtedly often be traced directly into subacute or chronic

nephritis, but that all other affections, as, for instance, some of a dyspeptic character, which are attended by a similar condition of the pulse, must necessarily lead to the same result, is a very arbitrary assumption.

Mahomed allows so long a time for the development of the disease foreshadowed by the presence of high tension, that the disproof of his theory is as difficult as he admits the proof to be. If, however, the persistent high tension is the cause of the cardio-vascular changes, of which hypertrophy of the heart is certainly one of the most common and most prominent, this hypertrophy *should* be developed at a very early period. But Mahomed admits that it requires years, often many years, to produce in the dyspeptic and suspicious or the apparently healthy cases, which, on account of their pulse, he supposes *will* develop into Bright's disease, a hypertrophy of the heart and disease of the vessels. And yet in cases where nephritis is present it develops much more rapidly than this.

Traube states that he has seen hypertrophy distinctly developed in four weeks after the beginning of an acute nephritis. It would certainly seem then that a functional high tension, not originating in disease of the heart or vessels, can not be either the connecting link between or the common cause of the renal and the cardiac disease.

It is easier to criticise than to construct, and I have no new theory to propose in place of those which seem to me insufficient.

We can not help seeing, however, the facts to which it is the merit of Johnson, of Gull and Sutton, and of Mahomed to have drawn our attention, that the form of Bright's disease attended with interstitial nephritis is more than renal, and that the cardiac and vascular changes may occupy the foreground of the clinical picture. We must also observe how often organic disease, more or less marked, occurs in other regions than in the muscles of the heart and in the kidney, the peri and endo-carditis, the pleuritic adhesions, the endarteritis of large and small vessels, diminishing their elasticity, and thus demanding an increased expenditure of force to drive a given amount of blood, the usual coincidence of a similar interstitial hyperplasia in the ganglia connected with the kidney, and possibly its not infrequent occurrence in the nervous centers and their membranes.

We are brought by these facts to admit the existence

of a fibro-hyperplastic diathesis, with perhaps no special tendency to particular organs except so far as influenced by their functional activity, but since the heart and vessels among the muscular organs, and the kidneys among the secreting, are more constantly active than any others, most frequently making itself manifest in these, with effects which vary with the different structure of the organs.

Michigan State Board of Health.

Reported for the MEDICAL NEWS.

THE regular quarterly meeting of this Board was held October 11, 1881. An interesting feature was a report by the Secretary relative to work of other State Boards of Health. The Secretary of the Michigan Board desires to continue to receive information from other Boards, by which these reports may be made quarterly.

A report relative to work of local boards of health showed increased activity on the part of local health authorities in the way of isolating those infected with communicable diseases and enforcing the law, requiring from householders and physicians notices of such diseases. In one city a physician had been fined \$100 for not reporting cases of diphtheria.

The revised document on the restriction and prevention of scarlet fever was adopted, and ordered published in English, Dutch and German. The consideration of this document involved a discussion of the question of recommending health officers to verify diagnosis of reported cases of diseases dangerous to the public health.

A circular, giving general rules for the prevention of diphtheria, scarlet fever and small-pox, was adopted. Forms were adopted for annual reports by the health officers and clerks of local boards of health, and by regular correspondents of the Board.

Dr. Avery, of Greenville, was requested to visit the overflowed district along the Maple River, in Gratiot County, and report to the Board.

Dr. Lyster, of Detroit, read a paper on syphilis in its relations to the public health. It dealt with the facts of the frequent communication of the contagion of syphilis, by direct and by indirect means, to innocent persons;

also with the serious effects on individuals, and on the offspring of marriages where one of the parents is thus blighted. He believed much might be done toward preventing this loathsome disease by wise legislation, which shall restrict syphilis, and especially by collecting and disseminating among young men and other people facts relating to the nature and dangers of this disease.

Dr. Kellogg read a paper on the Relations of Preventable Sickness to Taxation, showing by the reports of the Board of Correction and Charities, the abstracts of reports of County Superintendents of the poor, the abstracts of statistical information relating to the insane and the deaf, dumb and blind, and the vital statistics reports, that more than 3,000 persons in Michigan are annually dependent on the State for support, to a greater or less extent, in consequence of diseases preventable by the adoption of proper sanitary measures. The cost to the people of the State for the support of these persons is over \$40,000 annually, a portion of which is paid by every tax-payer. This is but a small part of the actual loss to the State. The number of deaths from preventable sickness in 1880 (*estimated* from returns by supervisors and assessors) was 4,585. Placing the value to the State of each human being at the low estimate of \$1,000, the aggregate loss by deaths from preventable sickness is over \$4,500,000. But to this must be added a further loss from sickness which did not terminate fatally. The statistics of the benefit societies of England show that for every person who dies two persons (on the average) are sick throughout the year. This indicates a total annual loss of time from preventable illness on the part of more than 9,000 persons, to which should be added the expense of living, etc., certainly more than \$1,000,000. This gives about \$5,666,000 as the total loss to this State from diseases generally conceded to be preventable. These figures are regarded as much too small, because of the few diseases included in this estimate as preventable (though it is generally conceded by sanitarians that at least nine-tenths of all ailments may readily be prevented), and because only sickness and deaths directly traceable to preventable causes have been included, while a large amount of sickness and many deaths are indirectly due to these causes. It is probable that preventable sickness might justly be charged with an expense to the State of not less than \$10,000,000.

Estimating the loss in other States in the same ratio to the population, the aggregate loss to the whole United States is not less than \$300,000,000 annually, an amount which would pay the national debt in six years.

Mr. Parker, of Flint, presented a report of the Public Health Section of the American Social Science Association, of Saratoga.

The Committee on Sanitary Survey of the State was requested to prepare schedules for the sanitary survey of cities, villages and townships.

Mr. Parker reported a proposed bill authorizing all boards of education to exclude from school persons infected with diphtheria, scarlet fever or small-pox, or living at houses where any person is infected with one of these diseases.

The Secretary was directed to prepare and issue a weekly bulletin of sickness in Michigan for such papers and medical journals as will publish it.

Dr. Baker was authorized to procure the services of an architect in the preparation of a circular on hospitals for communicable diseases.

Dr. Kellogg reported on the subject of criminal abortion. He and Dr. Hazlewood were requested to prepare a circular designed to collect the facts on this subject.

SELECTIONS.

University Hospital.

Clinical Service of Dr. Wm. Goodell, Professor of Clinical Gynæcology in the University of Pennsylvania.

REPORTED BY WM. H. MORRISON, M. D.

CANCER OF THE NECK AND BODY OF THE WOMB.

GENTLEMEN:—This morning, a lady about fifty-one years of age came to my office and told me that she had reached the climacteric, and yet she found that, after her husband had been with her, a discharge of blood followed, with subsequent hemorrhages. As soon as I heard that statement, I said to myself, "Here is something that the male organ impinges on during intercourse and causes it to bleed."

What could that be? The first thing I thought of was carcinoma, because my experience would lead me to think that at that time of life it would probably be the cause. Another cause might be the presence of a polypus. A third cause might be an exceedingly bad laceration of the cervix. If there were a bad laceration, with eversion of the lips of the cervix, the male organ would hit the lining of the cervix and might cause bleeding, but the bleeding would not be as great as in carcinoma.

When I made the examination, she said to me, "Doctor, I wish you to tell me frankly whether I have a cancer or not; for, if I have, I want to know it." I promised to tell her. After making the examination, I said to her, "This is of the cancer family, but it is not a hard cancer—not that kind which is found in the breast. Those are rarely curable; but these are sometimes curable." If I had not promised to tell her, I should not have used the word cancer, but should have described it as a bad ulceration which was very hard to cure. Cancer is an ugly word to say to a woman; it is signing her death warrant. Women often say to me, "Now, doctor, if you find a cancer, don't tell me." As a rule, I never tell a woman that she has cancer, if I can possibly avoid it. When I told that woman that these cancers could sometimes be cured, I told her the truth, for I have cured three cases by treating them in their incipency; at least, the disease had not returned after five or six years.

Now as to the history of the case before us. She is fifty-one years of age. For the past two years she has had large hemorrhages. Her complexion has been changing. You can not see this very well on the face, as the ether has changed the color somewhat; but you can see it here on the buttocks. The skin is of an ashy hue; but do not be misled by the color, for malaria and large hemorrhages will cause a similar tint. The color is not a pathognomonic sign.

Dr. Baer has examined this woman, and found a cancer inside of the cervix. None of you can make a mistake in these cases of cancer of the uterus. You may mistake something else for a cancer, but you can never mistake a cancer for anything else. When these cases come to you, the disease has in the great majority of cases passed to the stage of ulceration. If the case came under observation before ulceration, I do not know that it could be

diagnosed; but the most common malignant disease of this part of the body is epithelioma, and it usually begins with an open sore. I have known an instance where the disease began as a scirrhus; but this is rare.

There are two forms of epithelial cancer which attack the neck of the womb—the vegetating and the excavating. The former is known as the cauliflower excrescence, and is not found so frequently as the latter.

This is a case of the excavating form. I find a pit filled with granulations which are friable. I often compare this to the crater of a miniature volcano. Around this irregular pit is a hard rim. This womb is movable. Usually, when the case comes to you, exudation, either inflammatory or carcinomatous, has caused fixation of the organ. Simply touching this mass has, as you see, caused bleeding, and frequently there will be profuse hemorrhage. There is no need of the speculum to make the diagnosis of cancer. Do not introduce one, for you will be sure, if the womb is fixed, to have bleeding, and you will be unable to see anything on account of this bleeding.

I propose to scrape away as much as I can of this diseased tissue. This operation has, in my experience, never been followed by any bad results. I once made an opening through the womb into the abdominal cavity; but the woman had no unfavorable symptoms, and at the end of ten days went to her home, some distance in the country.

While at the late meeting of the American Gynecological Association, held in New York, a friend asked me what I did in these cases of cancer. I told him that I scraped away the diseased tissue, but that I did not use the hot wire, because I had seen serious and even fatal secondary hemorrhage follow its use. A few days ago I received a letter from this gentleman, in which he gave me the history of a case in which he had tried this plan, after getting home from the meeting of the Association. He says, "I went to work and scraped away all of the diseased mass, as you told me. After having done this, I found a little nodule on the posterior surface of the vagina, which I excised with my scissors, and immediately a torrent of blood rushed out, as though I had cut one of the iliac arteries. I used vinegar, but it had not the slightest effect on the bleeding." [I had told him that I used vinegar in controlling the hemorrhage.] "I then used Monsel's solution, without avail. Finally I controlled the hemor-

rhage by a block of alum placed over the bleeding point and a tampon in the vagina; but the woman died fifteen minutes afterward." The last words of his letter are, "It was rather rough on a fellow, wasn't it?" I do not understand what could have caused that hemorrhage. Possibly he may have cut into an aneurism of the circular artery; but I have never seen the artery so much enlarged, nor have I ever seen a hemorrhage like that in these cases.

In removing this tissue, I generally use the dull curette—Simon's curette, named after Simon, of Heidelberg. I first catch the neck of the womb with the double tenaculum, and ask an assistant to hold it, while I use the curette. I rarely use a speculum in this operation, but direct the curette by a finger in the vagina. The womb measures four inches. I am afraid that the disease has also involved the body of the organ. I am now scraping away the cervix and making a funnel-shaped opening in it. If I had known that I was to operate on this case this morning, I should have brought with me my Paquelin's cautery to cauterize the surface after I have scraped away all that I can. Instead of the thermo-cautery I shall to-day use nitric acid.

As I proceed, I find that the whole cervix and the cavity of the womb is involved, and all that I can hope to do is simply to prolong life and make it more bearable. I can, with the utmost ease, get my finger into the cavity of the womb.

This is a case in which it might be proper to try the removal of the whole womb. This is an operation that I have never performed. It has been so fatal a one that I have not felt warranted in recommending it, and, indeed, I have rarely seen a case in which it could be performed, because of the fixation of the womb to adjacent tissues. If this woman were perfectly willing to have the womb removed, I should not object to removing it *per vaginam*. The removal of the organ through the abdominal wall has been a very fatal operation, the patients, as a rule, dying immediately or a short time after the operation. In this case the vagina is very capacious. The womb could be pulled down and gradually enucleated. Some of the vessels could be tied, while others could be closed by the hot iron.

I once had the day appointed for removing the uterus, but a day or two before the appointed time I discovered

a slight œdema, and on examining the urine I found a large quantity of albumen present. I then refused to operate, although implored to do so, both by the lady and her husband. A few days after this she had a uræmic convulsion.

I have now nothing but a shell left. In some places I have gotten through the whole thickness of the cervix. To check the bleeding, I prefer vinegar to Monsel's solution, because the latter forms a hard blood-plaster, which has to decompose and break down before it can be removed.

I shall not make an application of nitric acid, as I intended to do, because the case is one in which nothing can be done; and if there is a return of the disease requiring operation, I shall use the hot iron. I hope that this operation may diminish the discharge and give her more comfort; but when the body of the womb is involved, there is little chance of doing any good.

Here, gentlemen, is a case which comes to us for diagnosis. I have had her put under the influence of ether. She is a girl twenty years of age. She has been very well, with the exception that she now has a little pain, probably in the right side. She eats well, sleeps well, and works well. She is unmarried. Last May she discovered that she had a tumor. At that time it was as large as her fist. Since then it has grown rapidly.

Now, gentlemen, in a case like this—an abdominal tumor in a young unmarried girl—we have to make a very cautious diagnosis. On several occasions I have had sent to me cases of supposed ovarian tumor which have proven to be cases of pregnancy. I once had a young unmarried girl sent to me by an excellent diagnostician as a case of ovarian tumor. The girl came innocently. I examined her, and found that she was pregnant. I had ballottement and the foetal heart-sounds, and in addition I found milk in the breasts. When I told her what the trouble was, she was perfectly dumfounded. I asked her to tell me frankly if she had not allowed liberties, and she admitted that she had; but she said that nothing could have come from it. I suppose that intercourse had taken place, and that withdrawal had been practiced; but we have instances where impregnation has occurred when the semen has simply fallen on the external organs, some of the spermatozoa entering the vagina.

This girl, I believe, is innocent of any suspicion that she may be pregnant; but that only makes the diagnosis more difficult. She says that she has had her monthlies regularly until the last period, and I believe her. A designing woman may tell you that she has been regular in order to get you to pass the sound and induce an abortion.

I examine the breasts to see if there is any areola or any of the enlarged glands described by Montgomery. I find no marked change. If this is pregnancy, it has reached about the eighth month—the tumor is up to the ensiform cartilage—and we ought to have milk in the breast; but I find none.

Examining the tumor, I find a lump which feels very much like the head of a child; but it may be a cyst. She has also plenty of fat in the abdominal wall. An ovarian tumor usually, but not always, takes away fat in an astonishing manner.

Again, both ovarian tumors and pregnancy are cysts, so that the external evidences will be the same in both. We have dullness over the tumor. In the left flank there is resonance. This would exclude dropsy, for the fluid would gravitate to this region, and we should have dullness on percussion, unless, as might happen, the colon had become adherent to the wall of the abdomen.

I do not know that it would be possible, in the lecture-room, to hear the foetal heart-sounds even if they were present. I shall try. I hear nothing but the beating of her own heart. Fluctuation is not marked in this tumor. It is not marked in ordinary pregnancy, nor is it marked in polycystic tumors.

I shall now make a vaginal examination. I shall first ascertain if the hymen is present. If it be present, the inference will be very strong that this is not pregnancy; but I once had a case in which I had to cut the hymen during labor. At a late meeting of the Obstetrical Society, I spoke of a case of ectropion and erosion which looked very much like a laceration of the cervix. It occurred in a woman of whom I could not have the faintest suspicion of unchastity, and in whom the hymen was present. A physician present then told me that he had delivered a woman three times, and yet her hymen had never ruptured. I can easily introduce two fingers into this vagina. The cervix is small and unlike the cervix of pregnancy. The next point is, can I venture to pass the sound. These

are the cases in which physicians are very commonly making mistakes. The best anatomist that England ever had—John Hunter—tapped a woman who he thought had an ovarian tumor. A few days later, labor set in, and the child was born with the mark of the trocar on its shoulder. So far as my examination goes, I should say that the womb is over on the right side and that it is empty. I am going to pass the sound with the greatest gentleness into the os, and see if it passes in the direction of what I suppose to be the womb. I shall pass it very gently. I have done this on several occasions, and have not ruptured the membranes. I now remove it, and find that it has only passed two inches. I shall try again. There is another thing that would lead me to think that she is not pregnant—that is, the tumor does not present to the vagina. It is with difficulty that I can feel it.

If I can not make a diagnosis, there is only one thing to do—that is, to wait. If it is pregnancy, in a month or two it will all be over; but if it is a cystic tumor, it will develop slowly.

I think that I now have the sound up to the fundus of the womb. The sound shows a measurement of just two inches and a half. I'll try that again. I do not think this is a case of pregnancy, but there are certain symptoms which I do not understand. I am pretty sure that I have the sound up to the fundus of the womb. I move the tumor, but it imparts only a slight motion to the sound. The tumor seems to be not fastened very closely to the womb. I move the sound in all directions, and the womb moves with it. I do not think that the sound is rotating in the cavity of the womb. I tell you candidly, gentlemen, that I do not know what this tumor is. I see nothing to help me to decide as to its nature: it is irregular. Here is a lump, which might possibly be the head of the child, and here is a body, which might represent the shoulders. I have had the sound in the womb, and while I can not declare positively that it reached the fundus, I feel a certain amount of assurance that it did. I am not prepared to make any diagnosis to-day. I shall ask her to return in a couple of weeks, but give her no hint as to my doubts. I shall tell her that we are hopeful that something can be done. You know that there is a way of talking without saying much. We shall also give her, as a placebo, the phosphated mixture of iron, which is not un-

pleasant to take. When she returns, I shall again examine her.

Before she leaves the room, let me again listen for the heart-sounds. I hear no sound but her own heart.

CANCER OF THE UTERUS AND VAGINA CAUSING VESICO-VACINAL FISTULA.

In this case we have very marked cachexia. The history is as follows: She is forty-one years old. Last spring she had what her physician described as the change of life coming on. What does she mean by that expression? She means that she had bleeding. There is an idea very prevalent, but with little foundation, that women bleed a great deal at the change of life. Bleeding at the menopause may occur in the following way: The woman may miss her periods for two or three months, and then a severe monthly come on; then she may again miss it for several months, and then another large bleeding occur; but this is not the way that the change of life usually occurs. When a woman loses blood every two or three weeks, or for two or three weeks at a time, it is usually caused by carcinoma. The patient who was first before you had lost blood for three weeks. I have not examined this woman at all. She says that she has no pain. You see, gentlemen, how marked is the cachexia. Look at that hand, almost translucent. It seems as though you could look through it. See that little thread-like vein, and here on the forehead we have an artery without any blood in it. We simply see the mark of the artery. The color of the skin is sometimes darker than this: when typical it is of a leaden hue.

Here is a new symptom which I do not fully understand—that is, inability to hold her water. When she coughs, it comes in a gush; at other times it simply dribbles away.

Examining her, I find that she is in an excoriated condition, which I presume is due to the urine. This may be a case in which the disease has made an opening into the bladder. I shall now pass my finger gently into the vagina. I shall not use the sound. I have now discovered what the trouble is, and shall have the patient removed, so that she may not hear what I say.

This is a case in which the cervix has been attacked by the disease, and is completely eaten away. The cancer has eaten up anteriorly and gnawed a hole into the blad-

der, through which I could pass two fingers. We have here a carcinoma affecting primarily the cervix, and secondarily the vagina, and opening into the bladder, causing a vesico-vaginal fistula. The result of this case can be easily foretold. It is entirely hopeless.

What are the lessons that we have learned to-day? First, that cancer of the neck of the womb is easily diagnosed; and while you may mistake a bad ulceration for cancer, you will never mistake a cancer for anything else. The second lesson is not to use a speculum in examining a case of cancer, for you can gain no information by the eye; the finger will tell you all, and the speculum may cause hemorrhage, requiring the use of the tampon to control it. The third lesson is that in abdominal tumors you will often find it difficult to make a diagnosis, and that you must not in such cases be in a hurry to use the sound; but if the case is urgent, and you must use it, call in some one to back you and share the responsibility. Finally, that if you are not certain as to the diagnosis, wait, if possible, until the period of gestation has passed before expressing an opinion.—*Medical Times*.

Pathology.

DR. SAMUEL WILKES, BEFORE THE INTERNATIONAL MEDICAL CONGRESS.

THEN, again, in considering the definition of disease, after having observed how large a number of maladies are produced by the influences of all our ordinary surroundings, we have to recognize those external causes of an extraordinary or specific character which prey upon the human frame, and often bring its machinery to an end. Now, if these causes are obviously parasitic, we are not witnessing so much the case of disease as the spectacle of one animal preying upon another. As regards the parasite, it is pursuing its normal life history, and as regards the patient or the host, he is simply being destroyed; the difference in his mode of death from that which would result from the onslaught of a wild animal would consist merely in time. If a man fall a victim to the bite of a cobra, he is not said to die of disease; but the term is applicable if he dies of glanders. There is

this difference, however, in the latter case—the poison is not a natural one even in the infecting animal. If, however, in these infectious diseases the morbid cause be an animal or vegetable organism, although microscopic, then we really have to deal with the operation of one living being acting upon another, and the so-called specific malady exhibits nothing more than the natural course of life of certain specific organisms. The term disease, according to the definition, is here again scarcely applicable.

All these abnormalities of the human organism, under whatever conditions they may arise, suggest that as every branch of biological science is being studied in relation to the lower organizations, and according to the law of evolution, so must pathology become the subject of a large field of inquiry, and be made to embrace the diseases of all animal and vegetable life. The comparison of disease in man and animals may throw much light upon its nature, and it is remarkable that so few persons have been stimulated to the work, by considering the long controversy which has taken place as to the relation between vaccinia and variola, or hydrophobia and rabies. A true human pathology should have its basis in comparative pathology. Here lies a mine of wealth but little worked. As at the present time every structure and function of the human body is being studied in reference to its antecedents in the lower animal, so there can be no doubt that the various morbid changes to which it is liable may be also profitably discussed in reference to similar actions in more simple forms of life. The truth of this has been clearly seen by philosophers who have had no special acquaintance with our department of science. Thus Buckle, in his "History of Civilization in England," says: "The best physiologists distinctly recognize that the basis of their science must include not only the animals below man, but also the entire vegetable kingdom, and that without this commanding survey of the whole realm of organic nature, we can not possibly understand even human physiology, still less general physiology. The pathologists, on the other hand, are so much in arrear, that the diseases of the lower animals rarely form parts of their plan, while the diseases of plants are almost entirely neglected, although it is certain that until all these have been studied, and some steps taken to generalize them, every pathological condition will be eminently empirical, on ac-

count of the narrowness of the field from which it is collected." This is almost as true now as when written several years ago, but we are pleased to think that our countryman, Sir James Paget, has already removed this slur upon our scientific procedure by his lecture on "Elemental Pathology," in which he shows the importance of observing the resemblances between the changes in the various tissues of man and the vegetable world, and also the deductions to be drawn therefrom.

Again, if the specific diseases be due to organism, and the hypothetical *contagium vivum* be a reality, it must be subject to the same laws as other organic matter; and if the doctrine of evolution be true, it must have numerous relations with families of its own kind, and perhaps with others which are now obsolete. This idea has occupied the minds of several medical men in this country, and it will no doubt further fructify in their hands.*

A highly contagious disease prevailing in a particular locality may be exhibiting the differentiation of some more simple, less virulent, and widely-spread disorder. For example, a slightly contagious epidemic sore throat might in course of time develop into a more virulent one, until it culminated in diphtheria; and if this disease be due to an organism, the latter might have found a more genial soil for its development, or be altered by propagation and time, so that new properties might at last have been added to it. There may be a progressive development of infectiveness. Then, again, the doctrine of natural selection might obtain in the fact of some specific diseases remaining amongst us, while others have become obsolete. The same law, too, if allowed its full operation, might tend still more than it does to the subjugation of many hereditary diseases; for as these appear in youth, and often cause death, they would fade away by a process of self-destruction. As regards the specific diseases, we see again how the most susceptible persons would be struck out by the poison, and the least susceptible remain, so that the poison would be modified in its virulence. We witness this fact in the more moderate characters of the exanthemata in all civilized nations, in comparison with the more profound effects produced by them in nations where the diseases had been hitherto unknown, as, for ex-

*Dr. Airy, Dr. Thorne, etc.

ample, the fatality in the Pacific Islands of our comparatively mild British measles.

Besides the maladies which are induced by the evil influences of our ordinary surroundings, and those due to specific causes just named, there is a class of diseases styled new growths, which take a very large share in adding to man's mortality. The advance made in our knowledge of these structures is very considerable, and is still rapidly progressing toward a determination of their origin and the discovery of their relation to the normal tissues. These investigations are assisting us in discarding some of our older notions regarding their constitutional and malignant nature, and proving that many are accidental in their origin, and therefore may possibly be averted.

In these brief remarks we see how the simple definition of pathology, as a deviation from the healthy standard, fails in its application, and how wide is the range of subjects included in its domain. What these are, you, gentlemen, are about to illustrate in the different subjects which you will bring before the section.

Eucalyptol.

BY LOUIS BAUER, M. D., M. R. C. S., ENG.

Professor of Surgery in the St. Louis College of Physicians and Surgeons, etc.

[THIS is a new remedy, seeming to be possessed of such undoubted remedial powers, that it will find a permanent place in the materia medica. To inform our readers in regard to it, we copy the following article from the St. Louis *Clinical Record*.—EDITOR.]

Eucalyptus Oil has been known and used as a remedial agent in Europe, for the last fifteen years. Its high price has interfered with its general use, and even now, the same cause hinders its rapid introduction into practice. Like all powerful drugs, it has found its warm advocates and also its adversaries.

But since Eucalyptol has been recognized as a more reliable and agreeable, and at the same time less dangerous antiseptic than carbolic acid, and since Professor Lister has emphatically indorsed and adopted it, the interest of the profession in all relating to it has been commensurately increased.

My attention was first called to its therapeutic virtues by Professor Mosler, of Germany, and I then resolved to enter upon a course of experimental investigations. Unfortunately, I have been unable to find leisure for the elaboration of the subject, and, therefore, I have had to content myself with giving it a trial as an opportunity offered. On the whole, I can but confirm the observations of Mosler and others, and must confess that I am most favorably impressed with the action of this drug.

Although I have failed to carry my original design into effect, I will do the next best, by acquainting you with the results of the latest investigations into the subject in foreign lands.

Dr. Hugo Schultz* of the university of Bonn, in Prussia, has just published a pamphlet on "Eucalyptus Oil." He has not only collected the literature on the subject, but he has gone over the entire field with that thoroughness which is peculiar to the German mind. In addition, he has instituted numerous experiments to elucidate the action of this interesting substance. By the aid of this literary auxiliary, I am enabled to render you cognizant of all which is thus far known about the subject.

The author devotes more time and space to the physico-chemical characters of the oil than we have at our command on this occasion. We must refer those who wish to study the subject *ex fundemento* to the original work itself.

The impression prevails that the tree of *Eucalyptus globulus* gives protection against malaria. Prompted by this idea, the French government has commenced its cultivation in the south of France and in Algeria, and the Italian authorities have adopted similar measures to improve their swamp lands. Future observations will decide as to the hygienic virtues of this tree.

From a perusal of the literature of the subject, and taking merely the opinions of such writers as are favorably impressed with the therapeutic properties of Eucalyptus Oil, it would seem that it constitutes one of the most serviceable remedies in the physician's armory.

In the European markets several qualities of the oil are offered for sale, all more or less impure. Some of them

* Das Eucalyptusöl pharmalogisch und klinisch dargestellt. Bonn: Cohn & Sohn, 1881.

had to be prepared for use by re-distillation. Cloez subjects the crude article first to the action of caustic potash and a solution of calcium chloride, and subsequently to distillation. The result is a colorless, transparent oily fluid, with an aromatic odor. Its specific gravity is 0.905; it boils at 170 to 175° F. The substance thus prepared he calls "Eucalyptol," by which term it is now generally known in Europe.

I am not aware that any brand of the article has been imported into the United States other than that of Sander & Sons, of Sandhurst, Australia. The Eucalyptus is indigenous to that part of the world, and grows there in great profusion. The article furnished by this firm, corresponds exactly in its chemico-physical properties to the Eucalyptol of Cloez, and it is this importation that I have employed in my clinical tests.

With the view of ascertaining the physiological effects of Eucalyptol Gimbert, Seitz, Siegan, Schultz, and others have taken ascending doses of the article; Schultz as much as ten grms. (= two and a half fluid drachms) at one time.

Eucalyptol never interfered with digestion, excepting acting as an appetizer.* Only exceptionally it produced ephemeral nausea; soon after it was taken, a sensation of heat was experienced in the mouth, fauces, pharynx, and in the stomach, followed by dryness. A constant effect was a certain by no means disagreeable lassitude and irresistible drowsiness. The sleep following was quiet and refreshing, and susceptible of interruption. For hours afterward the breath was redolent with the peculiar aromatic odor of the drug, and the urine had the odor of violets. No albuminuria was to be detected.

The concentrated alcoholic tincture of Eucalyptus leaves was taken by Seitz in drachm doses. It increased the temperature of the body, and eventually gave rise to slight perspiration. The head felt heavy and as if a band encircled it tightly. The secretion of mucus was augmented in the mouth and pharynx, followed by eructations and dryness. No derangement of digestion was noticed, nor was there any material increase in the secretion of urine.

The elimination of the oil is principally effected by the

* Eructations, however, followed, sometimes persisting for hours.

lungs and bowels; it may take several days before the Eucalyptol disappears from the breath or stools. The skin and kidneys are engaged only remotely in its removal from the body. Sometimes artificial heat must be applied before the violaceous odor becomes noticeable.

One case, however, is mentioned by Mees, in which albumen was discharged under the use of Eucalyptol in malaria. In this instance, albuminuria may have pre-existed; and this symptom may be attributed more rationally to the disease than to the therapeutic agent employed.

Some experiments have been instituted with reference to the *external effects* of the oil. They all show that the drug produces an irritating action upon the healthy epidermis. The raw oil causes a burning sensation, erythema and blisters; the Eucalyptol produces no burning, only a slight reddening of the skin, and a miliary eruption, which manifestations disappear very gradually.

Dr. Schultz noticed a consecutive effect, for which he can offer no explanation, viz: Fourteen days after the termination of the cutaneous changes evoked by the oil, he observed upon himself a new erythema over the chest which recurred every evening, gradually spreading along the course of the lymphatics (like erysipelas), toward the back and down the inner aspect of the thighs, where it became fixed and covered with acneform pustules. These singular phenomena died out by degrees in about four weeks.

The temperature under the action of Eucalyptol.—Gimbert and Siegan claim that animal heat is reduced by this agent. This has been proven experimentally—by Siegan upon himself. Between 1:45 and 6 o'clock P. M., he took one hundred drops of the oil. The physiological rise of six-tenths of a degree (C.) not only did not occur, but there was a fall of two-tenths of a degree below the normal standard. The total reduction, therefore, amounted to eight-tenths of a degree. A second experiment exhibited a depression of six-tenths of a degree. According to Siegan, quinine falls short of Eucalyptol in this regard. These observations have been confirmed by Liebermeister† and Jurgensen.* The former administered a dose of quinine of 2.4 grams (= 37 grains), producing all the collateral symptoms usual to the action of this drug, but no

* Archive f. Klin. Med., 1876.

† Die Körperwärme, etc., Leipzig, 1878.

reduction of the temperature after seven hours. The latter observed no change in the bodily heat after the administration of 7.2 grams (= 111 grains) of quinine, given in solution within thirty-two hours. Wachsmuth* makes a similar statement. The comparative experiments, made by Schultz, upon six rabbits, are entirely confirmatory of those referred to; while the temperature was kept below the normal in three which had received subcutaneous injections of half a gram (= 7 or 8 drops) of Eucalyptol.

Effects of Eucalyptol upon the organic elements of the blood.—On exposing the blood of the frog to the vapors of Eucalyptol, the following changes are observed to take place under the microscope: Increasing clearness of the nuclei of the red corpuscles, radial folding of the protoplasm from the nucleus toward the periphery; gradually the cell elongates, when isolated, and assumes the shape of a rhombus; when grouped, they appear as if converted into endothelium. A small drop of Eucalyptol placed upon the edge of the slide destroys the corpuscles but leaves the nuclei.

Rabbit blood is darkened by Eucalyptol, and the corpuscles are rendered uneven (crenated) at their edges. The spectroscope reveals (1) a marked difference between the blood of cold and warm-blooded animals. The blood of frogs poisoned by Eucalyptol, exhibits the stripes of oxyhæmoglobin, while the blood of mammals, mixed with a trifling amount of the same substance, soon turns dark and coagulates.

Schlaeger states that the action of Eucalyptol obliterates all apparent differences between arterial and venous blood; according to this observer, arterial blood immediately loses its bright color when shaken up with Eucalyptus oil. (2.) The effects of Eucalyptol upon the white corpuscles are more prominent. Both Mees and Binz have obtained the same results in this regard. The former immediately annihilated the contractility of these cells by the addition of one-tenth of one per cent. of Eucalyptol, and in fifteen minutes, by one-fifteenth of one per cent. Artificial heat failed to revive them. In this particular, Eucalyptol produces the same effects upon the leucocytes as quinine.

Another very interesting experiment was made by

* Archiv d. Heilkunde, 1863.

Mees. He exposed the mesentery of a curarized frog to the vapor of Eucalyptol. The circulation remained normal. After twenty-four, and even forty-three hours, there was no inflammation, nor was there any collection of white blood-corpuscles upon the walls of the vessels, nor any emigration of them; whereas, all these pathological changes were observed in other frogs prepared in the same way except the exposure to the action of this agent. These observations have been fully verified by Binz. Consequently Eucalyptol possesses most valuable virtues as an anti-phlogistic and as a powerful restraint upon sup-puration.

The action of Eucalyptol upon the spleen.—The analogy between the actions of Eucalyptol and quinine, has induced Mosler to test its efficacy in reducing the volume of the spleen. His anticipations were fully realized. In his experiments he made use of the extract of the leaves, by the mouth and subcutaneously. He selected dogs as subjects, opened the abdominal cavity and took accurate measurements. During these experiments, the spleens were measured every hour. In four of these tests, the results were proportionate to the amount of the drug employed. That is to say, the size of the organ decreased in all its dimensions, its substance became denser and firmer, surface assumed a slate color and more or less covered with granulations, some of them as large as lentils. Mosler has elicited the same changes by the use of quinine in a similar manner. Other experimenters have verified these observations.

Action of Eucalyptol upon the heart, blood-vessel and respiration.—Numerous experiments by Schlaeger clearly demonstrate that the action of the heart and the blood-pressure are diminished by Eucalyptol, not only in man and in the mammalia generally, but likewise in the amphibia. In a frog, for instance, the action of the heart was reduced, by the subcutaneous injection of one centigram (1-6 of a grain), from 48 per minute, at 10:37 o'clock A. M., to 8 beats per minute, at 4 P. M.; respiration having come to a stand-still while the heart was still contracting 28 times to the minute. Its action upon the heart and lungs explains the conversion of arterial into venous blood under its use.

Action of Eucalyptol upon the nervous system.—The general effects of this agent upon the nervous system are

obviously depressing. It reacts upon the spinal cord when given in small quantities, and its action extends to the brain only when large doses are employed. Motor apathy and indisposition to mental effort are the inseparable results of the large doses in man. In animals, the effects are still more pronounced. Paralysis of motion supervenes, the vital functions grow weaker, and death ensues from sheer exhaustion. Gimbert affirms that the mere inhalation of Eucalyptol vapors produced paralysis in certain of the lower animals. Grisar and Schultz have furnished the most striking proofs of its paralyzing effects upon the reflex centers of the nervous system, by their experiments with *brucine*, the alkaloid of the St. Ignatius bean. This substance causes tetanic spasms of all the voluntary muscles which terminate only in death when it is administered in comparatively small doses. But if Eucalyptol has been previously injected the *brucine* develops only slight manifestations, and the animals experimented upon recover their full motor powers. Introduced in this way, the two drugs antagonize each other. Since Eucalyptol is absorbed but slowly, it is probably not available as an antidote in brucine poisoning.

Baltimore Academy of Medicine.—Session 1880-81.

APPLICATIONS TO ERODED CERVIX DURING PREGNANCY.—*Dr. H. P. C. Wilson* reported the case of a lady who came to him three months ago suffering from hemorrhages due to erosion of the cervix and cervical canal. This was the same patient in whom, one year ago, it was found necessary to induce premature labor at the seventh month, on account of profuse and exhausting hemorrhages which threatened her life. On examination the os was found soft, the cervix patulous and bleeding when touched. Her last menstruation occurred Nov. 2d. Dr. Wilson determined to try the effect of local remedies, in order to avoid, if possible, the necessity of artificial delivery, thinking that even if they led to a miscarriage, there was no other alternative in the matter. Accordingly, he began to mop out the cervical canal with chromic acid and Monsel's solution, alternating with iodine. This has been continued once a week for five or six weeks, and under it the erosion has healed, the bleeding has ceased, and the pa-

tient is advancing safely to her term. The mop was not passed beyond the internal os. He felt satisfied that he could conduct her safely to term.

OVARIAN TUMOR OR PREGNANCY? OBSCURITY OF DIAGNOSIS.—*Dr. Wilson* also exhibited a specimen of compound multilocular ovarian tumor, from a patient with the following history: She menstruated last Oct. 24th. She vomited incessantly and had excessive nausea. There was a faint mulberry-blue color in the mucous membrane of the vagina, and there was evidently a good deal of ascitic fluid present. The diagnosis was obscure, and was not settled until the abdomen was cut into, for the purpose of making an exploratory incision. About two gallons of fluid then escaped from the peritoneum. The ovarian tumor was found attached to the broad lig't and uterus. The pedicle was very short. The blue appearance was not sufficiently marked to be diagnostic; if well marked it is the most diagnostic sign of pregnancy. The uterine sound would have settled the question if it could have been justifiably used.

LACERATED PERINÆUM.—*Dr. Wilson* reported that he had had three cases of lacerated perinæum in the last three weeks. In the first case, that of a primipara, chloroform was used but no forceps; slight rupture took place whilst the head was being lifted off the perinæum by a finger in the rectum.

In the second case, no chloroform given; there was a good labor. Partial laceration occurred under the same circumstances as before.

The third case was that of a primipara. The cord was wound around the neck three times. Forceps and chloroform were used. The rupture occurred as the perinæum was slipping over the head.

All were brought together with serrefines and made perfect recoveries. *Dr. Wilson* exhibited some serrefines which have been recommended by *Dr. Garrigues* in cases of lacerated perinæums, and which he said it was very desirable to have on hand in all cases of labor; that the slightest tear might be promptly closed by them. They are to be left alone until they drop off of themselves—which occurs about the third or fourth day. Even slight ruptures require closure as they may give trouble in after years.

Dr. Williams said, the few cases of rupture of the perin-

æum which he had witnessed had all come from the shoulders, which cut like a knife.

Dr. Morris held similar views. He never leaves the shoulders to take care of themselves, but delivers them carefully, one at a time.

DIABETES MELLITUS.—*Dr. McSherry's* paper on this subject (previously published in this journal) gave rise to the following discussion:

Dr. Arnold said, the paper of *Dr. McSherry* abounded in practical suggestions, which were the more welcome since the pathology of Glycosuria is still very obscure. The disease, according to his experience, does not seem to be of frequent occurrence in this latitude, for in a practice of more than thirty years, he has seen only about a dozen cases. It appears to him that the early stage of diabetes in women is not so easily recognized as in men, on account of the modesty of the former in mentioning the fact of increased diuresis. Symptoms of far less significance than excessive thirst and the discharge of abnormal quantities of urine are apt to obtrude themselves upon the attention of the patients, and sometimes acquire a prominence that embarrasses diagnosis. Not long ago he attended a middle-aged woman who had suffered for many months from frequent attacks of gastralgia, which could only be temporarily palliated by large doses of morphia. She complained also of a chronic "pruritis vulvæ," which at once induced him to suspect the existence of diabetes mellitus, and on closer examination his suspicion proved to be well founded. Directing the diet usually employed in this disease, together with the administration of lactic acid (3 i every twenty-four hours), not only cured the gastralgia, but also notably diminished the quantity of sugar in the urine. The pruritus, however, was not relieved. In some of the cases under his treatment he gave a fair trial to large doses of tannic acid, without deriving any benefit from this drug. Lately he has had an opportunity of examining the urine for diabetic sugar in a case of concussion of the brain that was admitted to the City Hospital. The sugar was present in sufficient quantity to render its detection easy by the ordinary tests. It disappeared upon the recovery of the patient.

Dr. McKew had met with several cases. He dwelt upon the inefficacy of treatment. He has derived some benefit from the use of opium and tincture of iron; the latter is

capable of diminishing the amount of sugar, and also improving the general condition. If anything permanent is to be accomplished, it is in the early stages; in the latter, only palliation is to be thought of. He objects to the practice of constantly drugging confirmed diabetic patients, and depriving them of so many comforts and articles of food of which they are fond. It is almost impossible to prescribe a diet which is wholly free from matters forming sugar, and even if we could, it would not help our patients.

In illustration of the evil resulting from the attempt to coerce the disease, when fully established, by diabetic regulations, Dr. McKew related the case of a gentleman employed in a very large manufacturing business as general superintendent, and who was very well informed in many branches of natural science. This gentleman was fully aware of the existence of diabetes in his own person for over three years, and knew the sp. gr. and quantity of his urine. He had gotten along very well during all that time without medical advice, and, although feeble, was able to attend to his business. Yielding to the urgent advice of his employers, he consulted a prominent practitioner of the city, who advised a radical change in food and drink. The patient lost his appetite, his stomach revolted at the food offered, and he, in a few days, died of exhaustion. We do wrong in the latter stages to treat our patients so rigorously.

Dr. Uhler had met with several cases, all in men. In one case a gentleman of about thirty-five passed seventeen or eighteen pints of urine daily; his trouble had been pronounced Diabetes Insipidus.

The disease, according to physiologists, is due to increased circulation through the liver, owing to dilatation of the bloodvessels, and ought, therefore, to be treated by pressure, and, if possible, the artificial production of jaundice. He thought that bile might have some beneficial effect, and that many of the after effects of the disease are due to coagulation, probably produced by the sugar circulating in the system. He also thought that the benefit derived from exercise is due to increased action of the lungs and heart, and partly to pressure by the diaphragm.

Dr. J. J. Chisolm remarked that the specialist in large ophthalmic practice, probably, saw more cases of diabetes than any other physician. Many cases of diabetes exhibit

no special signs that would attract the attention of the general practitioner always to the kidneys, and call for an examination of the urine, but as soon as vision was in any way disturbed, the services of the specialist would be called into requisition. In the general impairment of nutrition, induced by diabetes, the eye often suffered, and cataracts were not uncommon from this cause of impaired health. Such cataracts are usually of rapid formation, involve both eyes, and are found in persons between twenty and forty years of age. Operations for the relief of this form of cataract, owing to the defective state of health, are not so successful as those occurring in otherwise healthy persons. Cataract is usually one of the advanced symptoms of diabetes. In a case of diabetes recently under his treatment, a female aged thirty-seven, cataracts developed so rapidly that in a few weeks from good sight the patient had lost all useful vision, and required the operation for cataract extraction. An examination of the urine exhibited a copious deposit of sugar. Under the liberal use of the tincture of the muriate of iron, the general condition rapidly improved. The cataract was extracted from the right eye, and six weeks later from the left. Both eye operations were perfect successes, and good sight was restored to each eye without the occurrence of any inflammation during the surgical treatment of the case.—*Maryland Medical Journal*.

Whitlow.

IN a clinical lecture on whitlow (*Medical Times and Gazette*, vol. i., 1881, p. 667) Mr. Christopher Heath says that the subject is meagerly treated of in the text-books. If met in the earliest stage, when the finger has just begun to redden and tingle, a twenty-grain solution of nitrate of silver, or the silver stick wetted and lightly penciled over the affected part and a little beyond, checks it at once. When the whitlow is a little more severe—that is, when pus forms about the nail or the tip of the finger—the cuticle, which is insensitive, may be incised. Occasionally, however, when a foreign body has found its way beneath the nail, pus forms there and gives rise to excruciating agony from the tension beneath unyielding structures. Judicious cutting of the nail will relieve this if

near the margin; but if near to the base, it is much better to pare down to the nail with a sharp knife until the matter is let out than to resort to the unnecessary cruelty of removing the entire nail.

The third kind of whitlow is really an acute necrosis of the terminal phalanx, following periostitis and suppuration beneath the periosteum, just as it does in the case of a long bone. A very slight injury—the prick of a needle or pin—may set it up. After some hours of uneasiness, the pain becomes acute and throbbing, and entirely prevents the patient sleeping. If timely relief is not given, pus will very slowly make its way to the surface of the finger, but never up the sheath of the tendons, and, when discharged, will leave the greatest part of the phalanx bare and dead behind it. A timely and free incision is the only mode of saving the phalanx, and can not be resorted to too early; for, if no pus be present, the inflamed periosteum will still be divided with great relief to suffering. The finger should be held firmly on a table, and the surgeon, entering his knife just above the traverse interphalangeal mark in the skin, should cut boldly down to the bone in its whole length from base to apex. When, as so often happens, these cases have been treated domestically with “soap and sugar” and poulticing until the end of the finger is riddled with sinuses, there is nothing to be done except to extract the necrosed phalanx as soon as it is loose, and to bring the finger into shape by careful water-dressing applied in strips. The base of the phalanx usually survives, giving a point of attachment to the tendons.

Inflammation of the skin and subcutaneous tissues may occur in any part of the finger. Incisions must here be made with care, so as not to open the theca or sheaths of the tendons, which then invariably slough, and the patient is left with a useless finger. For this reason incisions on each side of the finger are safer than one in the center, that may unawares let out the tendons, which will look perfectly healthy at the moment, but soon become soddened and softened.

The synovial sheaths of the flexor tendons late the subcutaneous are often, though not always, in directly revulsive effect. with the synovial membrane of the hand in doses of twenty the wrist, and hence pus is rapidous drink; if required, a up to, and, if not relieved, in y be added. If the dyspnœa

Treatment of Typhoid Fever in Children.

BY M. J. SIMON (Le Concours Medical. L'Union Medicale).

THE treatment of typhoid fever in children differs materially from that adopted in the case of adults. It does not consist in active medication or the employment of a particular remedy, but in a series of indications which should be fulfilled, and which may be stated in the following words: To sustain the strength, quiet or excite the nervous system according to circumstances, and to stimulate the functions of the skin, which are inactive. During the first few days the employment of diluted beverages is clearly indicated; acidulated drinks are to be preferred, since they are refreshing and agreeable to the taste. Such treatment will suffice at the outset, but after four or five days we may commence to administer alcohol. This agent, as is well known, is exciting in certain doses; on the other hand, it is a well-recognized fact that in diseases accompanied by high temperature it reduces the same, and sustains the forces which tend to exhaustion. The form in which the alcohol is administered may vary: Brandy, rum, Malaga wine, etc., may be employed indiscriminately, the dose, of course, being cautiously graduated. During this first stage the child has generally suffered more or less with constipation, but suddenly the scene changes: diarrhœa appears, accompanied by colic, which is sometimes very violent. Emollient fomentations may now be applied to the abdomen, and enemata employed containing two or three drops of laudanum for an infant of five to seven years of age. In most cases we shall soon secure relief of the abdominal pains, and the meteorism disappears after two or three days, sometimes at once. Every third day we may give with advantage a small quantity of some laxative mineral water, not for the purpose of purging the patient, but in order to cleanse out the intestinal canal. Enemata may be administered daily, to which may be added, if desirable, some antiseptic. For the purpose of stimulating the integument and reducing the entire body may be sponged with high vinegar may be added. At this slight digression in regard to the em- which he rejects in the treatment recommends the use of tepid baths,

as giving good results, not being accompanied by the discomforts of cold immersions. The patient should be moved to a bed in another chamber, morning and evening, if circumstances will permit; the object of this practice is to prevent the child from being kept constantly in contact with the poison which is engendered. It is desirable to add to this the most absolute silence, a darkened room, and rest which is undisturbed by inopportune visits. The diet should be regulated, but not too greatly restricted: milk and broth should be prescribed for the purpose of sustaining the strength of the patient.

To recapitulate, the treatment of ordinary typhoid fever, developing without unusual complications, consists, directly, in sustaining the vital forces by means of milk, broth, alcohol; and, indirectly, in diminishing the hypersecretion of the intestinal tract and combatting the poison by means of enemata, change of air, etc.

(1.) *Abdominal complications.* These include diarrhœa and severe griping. Absorbent remedies may be employed boldly, and palliatives to a limited extent. We may prescribe a mucilaginous mixture of ten grammes of chalk or four grammes of bism. subnit. in water or sugar. Benefit will also be derived from the administration of enemata of boiled starch, to which may be added four or five drops of laudanum; this dose of opium may be increased according to the tolerance of the patient, but great precaution should always be exercised. Emollient fomentations should be applied to the abdomen; it is possible that the diarrhœa may not cease for four or five days.

(2.) *Thoracic complications.* The most frequent are general bronchitis and partial congestion of both lungs. Emetics should generally be avoided. Ipecac, kermes and antimony are strictly prohibited; all such agents have no other effect than to depress the strength of the patient, and, indeed, may superinduce a fatal result. We should restrict ourselves to the application of dry cups to the front and back of the chest; this is a very simple remedy, but nevertheless very powerful, and always at hand. By such a procedure we stimulate the subcutaneous functions, and cause a salutary revulsive effect. Alcohol should be freely prescribed in doses of twenty to thirty grammes in a mucilaginous drink; if required, a little extract of cinchona may be added. If the dyspnœa

is greatly increased, a blister may be at once applied to the chest, and left in place three or four hours, but never longer. This will suffice to irritate the integument, and may be replaced by a bran poultice, which will promote vesication. We should not reject a therapeutic agent of such great value, especially in the infant, for the fear of causing an eschar. It is true that such an accident may very readily be produced in typhoid fever, and in general in cachectic conditions, but it may always be prevented by early removal of the vesicant.

(3.) *Cerebral complications.* These are the least controllable. Chloral may be employed in the dose of one to two grammes (?). If the infant presents symptoms of much excitement an enema may be given containing the yolk of an egg, a gramme of chloral and a gramme of camphor. Bromide of potassium may be administered as a last resort, but only for two or three days in succession.

(4.) *Hemorrhages.* Intestinal hemorrhages, so common in typhoid fever, are rare in the child; more frequently, obstinate epistaxis occurs, and the most successful means of arresting the discharge of blood is the following: A piece of agaric is cut into portions about one ctm. in size; these are introduced as far as possible into the nasal fossæ until the cavities are well filled, and held in place by means of a bandage. It is sometimes necessary to soak the agaric in a solution of per-chloride of iron. In every case tamponing the posterior nares by means of *Belloc's* canula should be rigorously prohibited; such manipulation is indeed very difficult, on account of the restlessness of the child; it excites nausea and secures no better results than the above means.

In case of intestinal hemorrhage, two drops of per-chloride of iron may be administered every two or three hours, in a little water; if this does not suffice, cold drinks may be given, and cold compresses applied to the abdomen. Internally ice may also be administered, grated and mixed with powdered sugar, which is generally very agreeable to the patient.

(5.) *Complications arising from pressure.* These are caused by congestion, leading to the formation of eschars over the parts which support the weight of the body; they occur most frequently over the sacrum. An attempt should be made to prevent them, which may be most simply accomplished by placing the infant upon an air-cushion

two-thirds filled; the parts may also be washed carefully with an infusion of fol. juglandis, or with ordinary astringent solutions. In conclusion, we may glance at the grave forms of typhoid fever.

In the ataxo-adyynamic forms, characterized by a combination of delirium and prostration, we may at once apply a blister to the back of the neck, which, as soon as it is dry, may be replaced by another; moreover, we may employ the remedies above adopted in cerebral complications. Finally, in adynamic typhoid and zymotic forms we should rely upon tonics and stimulating agents, capable of exciting the functions of the nervous system. If necessary, cold baths may be given, which should not be continued more than a few seconds, which will suffice to produce a strong excitant effect; however, this is a means which should never be employed until all others have failed.

Malarial Organisms.

PROBABLY the most useful work in which the National Board of Health is engaged is in the fostering of researches upon etiology. There lies upon our table the report of Dr. Sternberg made to the Board concerning the nature of malaria and the correctness of the asserted discoveries of Klebs and Tommasi-Crudelli as to the production of malarial fever by an organism, the *Bacillus malarie*. Injections of Roman mud and New Orleans gutter-slime, or of foul soil from a Mississippi delta, certainly kill rabbits; but we think Dr. Sternberg has clearly shown that it is not probable that the rabbit suffers from intermittent fever. The fact that rabbits in malarious districts do not suffer from malaria makes it probable that they are not subject to the ague-poison; and the temperature curves of Dr. Sternberg and of the Italian investigators themselves show that the fever which has followed their injections into rabbits has not a type at all comparable to that seen in human ague. Moreover, Dr. Sternberg has shown that the post-mortem lesions in the rabbit are not at all peculiar, but resemble closely those found in septicæmia. Klebs and Tommasi-Crudelli also attach some importance to the asserted fact that in malarial fevers there is in man an increase in weight in the early stages of the attack,

and that they have found this to take place in the rabbit poisoned with Pontine mud. We think that most physicians will agree with us in believing that early gain of weight is not a diagnostic symptom of malarial fever, and Dr. Sternberg has shown that sometimes, at least, gain of weight does occur in septicæmic rabbits. Dr. Sternberg very properly does not assert that he has disproven the existence or toxic properties of *Bacillus malarie*, but he seems to us to have clearly shown that there is at present no evidence that the organism possesses the deadly powers ascribed to it. A very important part of the work of Dr. Sternberg was the attempt to study the specific characters of the bacillus, so as to know whether it really has existence as a distinct form worthy of an individual name. The doctor did find in the mud from near New Orleans, and also in gutter-liquids taken from within the city limits, certain filaments of vegetable nature resembling those of *Bacillus malarie*, and probably identical with it. There does seem, however, a want of anything worthy to be called specific characters, and filaments closely resembling, and, to us, indistinguishable from, the *Bacillus malarie*, may be found in any foul mud near this city. It should be remembered that the bacillus has not yet been discovered in the human blood or body, and it does look as though the Italian experiments, careful and skillful though they may have been, have had too much weight attached to them, and that we are no nearer any knowledge of the ultimate nature of the malarial poison than we were ten years ago. Dr. Sternberg thinks we might experiment upon human beings, because intermittent fever is so easily cured and so rarely fatal; but we are inclined to believe it will be some time before this is carried out. The difficulty is not that malarial fever, if produced, would be serious, but that no one can tell what other affection, instead of ague, might be caused in the attempt at the production. It looks very much as though foul mud were a septic material; and he will be a brave or reckless man who purposely makes a compost-heap in his own cellular tissue.—*Med. Times*.

MICROSCOPY.

High Amplifications.

REFERENCES have been made by a lady correspondent in recent numbers of the *American Journal of Microscopy*, to an amplification of upward of 20,000 diameters obtained with a $\frac{1}{8}$ objective using an eye-piece of $\frac{1}{50}$ equivalent focus. On the usual assumption that a one-inch objective gives a magnification of 10 linear, a $\frac{1}{8}$ would give 50, and a $\frac{1}{50}$ eye-piece 500: the combined amplification would therefore be $60 \times 500 = 30,000$ linear. A few instances of practical results obtained with high amplifications can not but make us feel sceptical of the value of the definition obtained with a $\frac{1}{50}$ eye-piece.

Sir John Herschel, in his *Treatise on Light*,* mentions having "viewed an object *without utter indistinctness* through a Microscope by Amici, magnifying upward of 3,000 times in linear measure."

In the very early days of the collodion process in photography, Mr. Wenham exhibited a micro-photograph of *P. angulatum* magnified 15,000 linear: it is no disparagement to the photograph (a copy of which we have recently inspected), to say that it is not remarkable for distinctness. It was produced with the first compound achromatic $\frac{1}{25}$ ever made in this country; and the lens coming from the hands of an amateur optician, and the photograph being produced by the same amateur photographer, the result was then regarded as an almost marvelous specimen of practical skill and ingenuity.

Some thirteen or fourteen years ago, Hartnack had a micro-photographic transparency on ground glass of *P. angulatum* exhibited in his *atelier* in the Place Dauphine, Paris. The magnification was about 3,000 linear; the image was well defined to the edges—about 16 inches square—and was produced with one of his then best No. 10 immersions.

In 1867, Dr. Woodward, of Washington, forwarded to Dr. Maddox, for exhibition to the Society, a series of micro-photographs of *Podura* scales, and various other test objects produced with sundry objectives, notably Powell and

*Encyc. Metrop., page 581.

Lealand's $\frac{1}{50}$, $\frac{1}{25}$ and $\frac{1}{16}$ dry lenses. The amplifications did not exceed 2,100 linear. Dr. Maddox then remarked that he believed "the *Podura* scale had never yet, in this country, been photographed by a $\frac{1}{50}$." The *Navicula rhomboïdes*, by Wales's $\frac{1}{8}$ and amplifier, magnified 800 linear, was especially admired.* Shortly afterward Dr. Woodward presented to the Society a large series of micro-photographs of Nobert's 19-group test-plate, and other test objects—the direct amplifications not exceeding 2,000 linear.

At various dates micro-photographs have also been brought before the notice of the Society by Dr. Maddox, Dr. Woodward, Count Castracane, Mr. S. Wells (of Boston), and others, and the direct amplifications have rarely exceeded 2,000 linear.

In 1868, Mr. Charles Stodder, of Boston, having access to a number of the presumably best objectives in America, was content to specify his own magnifications as not exceeding 1,062 linear (though he referred to 6,000 obtained by Messrs. Sullivant and Wormly),† and he particularly commended the performance of Tolles' $\frac{1}{8}$ immersion, as "the best on record"—and yet the magnification was only 550 linear for the resolution of Nobert's 19th group.‡

It is to be supposed that experienced microscopists like these have in every case sought to do full justice to the objectives in their hands, and it may be noted particularly that with so difficult an object as the highest group on Nobert's 19-group plate, Dr. Woodward, down to the latest date on record, has limited his micro-photographic operations to *less* than 2,000 linear of *direct* amplification. His more recent series of micro-photographs comprised *A. pellucida*, both dry and in balsam, the magnifications hardly exceeding 3,000 linear, though the objectives included $\frac{1}{25}$, $\frac{1}{16}$ and $\frac{1}{8}$ immersions of Powell and Lealand, $\frac{1}{25}$ and $\frac{1}{18}$ immersions, and $\frac{1}{10}$ oil-immersion of Tolles, $\frac{1}{10}$ glycerin-immersion of Spencer, $\frac{1}{8}$ and $\frac{1}{12}$ oil-immersion of Zeiss. The last objective named he regarded as the most powerful "resolving" lens he had seen up to the date of his communication (October, 1879). Dr. Woodward has then

* Quart. Jour. Micr. Sci., No. xxix. (1868). Proc. R. Micr. Soc., page 63.)

† Amer. Journ. Sci., Jan., 1861.

‡ See reprint of Mr. Stodder's paper on "Nobert's Test-plate, etc., Quart. Journ. Micr. Sci., No. xxxi. (1868), pages 131-8.

been contented with about 3,000 linear to exhibit the *best* definition of the objectives in the well-known official collection of the Army Medical Museum at Washington.

Highest Magnifying Powers.*

MR. A. Y. MOORE also refers to the same subject under this title.

It is well known to all practical microscopists that the magnifying power of an objective may be increased by eye-piecing to a certain extent, with a continued gain in resolving power. When the limit of resolving power is reached the magnifying power may be further increased, but nothing is gained, except in the apparent size of details already shown. After this comes a period in which the magnifying power may be increased almost indefinitely; but it is now very noticeable that the resolving power is impaired. The aberrations of the objective interfere greatly with the image. In fact, it is here that a lens is frequently said to "break down."

These three stages may be conveniently studied in an ordinary cheap $\frac{1}{4}$ of 100°. With an amplification of 300 diameters such a lens should easily resolve *P. angulatum*, but try as best we can, the lines of *Surirella gemma* will fail to be seen. Now, if a higher eye-piece be applied, giving a power of 500 diameters, this diatom may be resolved. Supposing this to indicate the limit of resolvability of the object, a still higher eye-piece may be used; but the resolution is simply shown larger. This period probably will extend to 1,000 diameters, but if increased much beyond this less is seen at each increase of power.

The extent to which these three stages may be carried is, of course, dependent upon the quality of the objective and its angular aperture. In testing objectives the magnifying power should be carried to the second stage, for a lens is frequently defeated simply because the visual angles subtended by the lines (or dots) are insufficient for recognition by the eye.

In a recent article in the *American Journal of Microscopy* a magnifying power of 100,000 diameters is mentioned, obtained by means of a Wales' $\frac{1}{15}$. From the fact

* Amer. Journ. Micr., v. (1880), pages 174-5

that *P. angulatum* was the extent of its resolving power, it is seen that the lens was far into the third stage of its magnifying power. Any such increase of power is, so far as practical work is concerned, useless; but the second stage is what we need and want. Frequently details are seen, but are so small as to tire the eyes; while, if enlarged by a higher eye-piece, fatigue is prevented.

Mr. Moore suggests the question, What is the highest power ever attained and used *without* losing resolving power, and what objectives are best suited to yield such powers? Will a $\frac{1}{25}$ or $\frac{1}{50}$, with lower eye-piecing, give better results than a $\frac{1}{6}$ or $\frac{1}{10}$ with high eye-pieces and the magnifying powers the same? He is only able from personal experience to give the result of using a $\frac{1}{50}$ eye-piece, with a $\frac{1}{6}$ objective of "180°" (or 100° "balsam angle"), giving a magnifying power of 32,500 diameters. With this he was able to see the last three diatoms of the balsam Moller Platte clearly resolved. The lines of No. 20 did not look exactly like "the pickets on a fence," but more like a lean horse's ribs. The eye-piece was not certainly *easy* to use, and sunlight was necessary to see anything at all.

Origin of Homogeneous Immersion.

IN describing a new diatom* (*Navicula synedriformis*), the Abbe Castracane mentioned that he had made use of a homogeneous immersion objective of Zeiss, "the principle of the construction of which is due to the celebrated Prof. G. B. Amici, but the realization to Prof. Abbe."

On this statement Prof. Abbe writes to us as follows:

"My sincere estimation of the prominent merits of Amici—whom I consider to be the very father of modern microscopical optics—need not prevent my pointing out that it is incorrect to ascribe the homogeneous immersion method to him.

"Amici, it is conceded, first applied *oil* immersion, but the use of oil, by itself, does not constitute *homogeneous* immersion.

"Amici did not aim, and indeed at that time could not have aimed, at the specific advantage of an immersion fluid being *as near as possible*, in refractive and disper-

*Accad. Pontiff. de' Nuovi Lincei, xxxiii. Sess. II., 25 Gennaio, 1880.

sive powers, to the crown glass. Some of his oil lenses require, for good correction, a liquid of considerably *less* and others a liquid of considerably *higher* refraction. From what is known of Amici's oil lenses it is clear that he availed himself of the different refractive powers of various oils and mixtures of oils for obtaining the best correction of his lenses *after he had finished them*, but did not direct his work to any definite refractive index of immersion fluid *prescribed previously*, except perhaps in favor of water immersion. This is so natural that it would be unintelligible if Amici had proceeded otherwise; he *could* not aim at the peculiar optical benefits attendant upon the index 1.50 in comparison with 1.45 or 1.55, because it would have been utterly impossible to utilize it practically at that period. This requires a refinement of technical art which was not attained by the manufacturers of immersion objectives until a much later time.

"The essential fact, in the principle of homogeneous immersion, is the increase of optical performance obtained from the total suppression of spherical aberration in *front* of an objective, and it was Mr. J. W. Stephenson who, in his first communications with me, expressed the opinion that doing away with the anterior aberration would improve the defining power, and especially would afford *very favorable conditions for further increase of aperture*, and suggested that the matter should receive an exhaustive theoretical and practical investigation by Mr. Zeiss and myself.

"This suggestion, which had not been previously made (though it is very self-evident *now*, as is always the case after a thing has been done), is the true origin of the homogeneous immersion method, and the basis of the superior performance of objectives of this kind."

OINTMENT FOR ITCH:—

| | | | | | |
|---|-----------------|---|---|---|-----------|
| R | Balsam of Peru, | . | . | . | 3j. |
| | Benzoic acid, | . | . | . | gr. cx. |
| | Oil cloves, | . | . | . | gtt. xl. |
| | Alcohol, | . | . | . | f. 3ijss. |
| | Simple cerate, | . | . | . | 3vij. |

Dissolve the essential oil and the benzoic acid in the alcohol, and mix them with the cerate; lastly, add the balsam of Peru.

It is said to effect a cure in twenty-four hours.—*Canada Med. Record.*

GLEANINGS.

ARTIFICIAL HUMAN MILK.—I should like to direct the attention of practitioners to the artificial human milk now prepared by the Aylesbury Dairy Company, at a cost little over that of the best nursery milk. This valuable method of treating cow's milk was first brought under my notice some years ago by Dr. Frankland, the eminent chemist, who devised it for one of his own children who was ill; and I have since used it extensively in my practice. Its composition is absolutely identical with that of human milk, and under its use the risks and disadvantages of bottle-feeding of infants are reduced to a minimum. I have been in the habit of instructing nurses how to prepare it at home from Dr. Frankland's recipe, but the trouble and difficulty of making it stood seriously in the way of its general adoption; and, unless the nurse happened to be exceptionally intelligent, failure very frequently followed. For this reason I suggested its manufacture to the Aylesbury Dairy Company, and the specimens with which they have since supplied me have been perfectly satisfactory, and require no further treatment than heating to the proper temperature. I look upon it as immeasurably superior to asses' milk, than which it is much cheaper; and if this valuable preparation were more generally known and used, much illness, in the case of children who can not be brought up at the breast, would be avoided.—*Dr. W. S. Playfair, British Med. Journal.*

VOLKMAN'S OPERATION FOR HYDROCELE.—Wm. Gardner reports three successful cases in which he performed this operation for radical cure. Operating under carbolic spray, he made an incision the whole length of the scrotum through all the tissues to the tunica vaginalis, which he then opened and divided to the same extent with probe-pointed scissors. The tunica vaginalis was then stitched to the skin by several points of interrupted suture, and after the insertion of a drainage tube at the lower angle, the whole was brought together with deep wire sutures. Antiseptic dressings were applied, and in a few days the wounds were healed.

He says that the advantages of the operation are: "1st. The absolute certainty of cure within a fortnight, if anti-

septic precautions are observed. 2d. The smallness of the risk, as evidenced by Volkman's list of seventy cases without a death. 3d. The simplicity of the operation. 4th. So far as at present known, the operation is never followed by orchitis, as has been the case with the injection treatment. 5th. This advantage has been pointed out by Mr. MacCormack in the following words: 'That a diagnosis in doubtful cases is thereby made easy, and a tumor of the testicle, of which the hydrocele is a symptom, may be thus examined, and, perhaps, in some cases, treated by immediate removal, or in others by incision.'"—*Australian Med. Journal*, January, 1881.

THE CURE OF VARICOSE VEINS BY SUBCUTANEOUS LIGATURE. —Dr. John Duncan, of Edinburgh, employs carbolized catgut for the radical cure of varicocele (*British Medical Journal*). The veins are separated from the artery and vas deferens, and a needle armed with catgut is thrust through at the point of separation; it is then reintroduced at the orifice of emergence, made to pass between the veins and the skin, and brought out at the original entrance; the two ends are then firmly knotted together and cut short. By traction on the scrotum the knot is made to disappear entirely, and the punctures are covered with salicylic wool saturated with collodion. The same maneuver is repeated an inch higher, and sometimes a third ligature is advisable. A hard lump of coagulum forms between the ligatures, tender at first, but soon diminishing in size and becoming insensitive. Dr. Duncan treats varicose veins of the leg in the same manner. The introduction of the point of the needle into the aperture of exit of the first puncture and the tightening of the loop of catgut is difficult when there is brawny edema. In such cases the patient should be kept at rest and an India rubber bandage applied for a few days. A single ligature is not sufficient, and to close the lumen permanently two must be applied about one inch apart. It is essential that no branch be given off in the segment of vein between the ligatures.

SURGICAL TREATMENT OF ABSCESS OF LIVER. The following summary represents the results of my investigations in regard to the surgical treatment of abscess of the liver: 1. The liver should always be aspirated in a case of suspected abscess, in order to verify the diagnosis. 2. Many

small, and a few large, abscesses have been cured by one or more aspirations; hence this method should always be employed at the first exploration, and we should then wait until it refills. If pus collects slowly and in small amounts, it may be again aspirated; if quickly, and in large quantities, aspiration is not to be relied upon. 3. Incisions should be made into the abscess cavity at the most prominent position of the tumor, whether in an intercostal space or not, and irrespective of the presence or absence of adhesions. 4. Rigid antiseptic precautions add much to the safety and certainty of a successful result. 5. When Listerism is impracticable, good results will generally be obtained by a simple incision or puncture by a trocar and canula, followed by the introduction of a drainage tube and the daily use of carbolyzed injections. 6. Any of these methods are preferable to leaving the case to nature.—*R. Winslow.*

FACIAL PARALYSIS.—The type of a rheumatic paralysis is that form of facial paralysis produced by cold. Cold air directed against the side of the face induces such a refrigeration of the nerve as to impair its conductivity, and lead to sudden paralysis in the muscles which it supplies. The eye can not be closed, and expression is completely lost on that side of the face. A small proportion of the cases manifest a tendency to spontaneous cure. If severe, the muscles presently exhibit the reactions of degeneration—respond only to the galvanic current. Some effusion probably takes place in the sheath of the nerve; hence galvanism gives the best results. Stable galvanic currents may be applied at once, the anode resting on the nerve where it emerges from the skull and the cathode on its peripheral portions. Excitation of the muscles should be postponed for a few days, when it will be found that a very weak galvanic current slowly interrupted induces ready response in the muscles. Many of the cases recover in a few weeks; some require months, even years of treatment. Cases of many years' standing have been cured by persistent application.—*Bartholow's Medical Electricity.*

HAMMOND ON ABSCESS OF THE LIVER AND MELANCHOLIA.—*Dr. Hammond* ("Neurol. Contrib., i., 3, 1881) states that he has performed aspiration of the liver for abscess in melancholia, etc., in forty-three cases; in twenty-seven

cases there was no pus nor any other fluid removed; in one there was a hydatid cyst; and in fifteen pus was obtained with relief. He asserts that in no case had adhesions formed between the surface of the liver and the abdominal wall, and that in no case was the operation followed by the slightest untoward result. He concludes from his experience that hepatic abscesses often exist, and may do so without local symptoms or general disturbance; that if associated with hypochondria, etc., evacuation of pus will result in cure of the disorder and saving of life, while, if there is no pus, no harm is done. He therefore recommends that (*in all cases of hypochondria or melancholia*) the region of the liver should be carefully explored, and that, even if no fluctuation or any other sign of abscess be discovered, aspiration through one of the intercostal spaces should be performed.—*N. Y. Med. Jour. and Obstet. Rev.*, August, 1881.

INTESTINAL OBSTRUCTION BY WINE BOTTLE.—The patient having seat worms was in the habit of introducing butter into the rectum to destroy them. One day, to push the butter further, he laid it on a piece of paper on the mouth of a hock bottle, and then sitting on this gradually introduced the bottle (which tapered from its base to its mouth) entirely within the rectum. Unsuccessful attempts were made to withdraw it. The mouth of the bottle could be detected on the left side of the abdomen near the short ribs. An incision under chloroform made backward between the coccyx and tuber ischii allowed more room, but still there was no success, although all sorts of forceps, cords, etc., were tried. Next day, the symptoms being urgent, the abdominal wall was cut through in the left linea semilunaris, the bowel opened in the descending colon and the bottle drawn out. The wound in the bowel was closed by a continuous cat-gut suture, and the patient rallied well at first but sank and died next day.—*London Letter in Amer. Practitioner*.

HAMAMELIS VIRGINICA AS A LOCAL APPLICATION.—Dr. W. H. Netherclift writes to the *British Medical Journal* concerning "hazeline," the new extract of witch hazel, that as a local application in irritable and inflamed piles situated at the margin of the anus, where the remedy can be readily applied, he has never met with its equal. In most of the cases submitted to the treatment the relief was im-

mediate and permanent. His plan has been to have the part bathed in the solution three or four times a day, and a piece of lint dipped in it kept applied to the anus during the intervals. All urgent symptoms have passed away, as a rule, in from twelve to twenty-four hours. In chronic and intractable ulcers of the varicose or eczematous description he has met with excellent results by using the hazeline after the fashion of a water-dressing.

ANGINA PECTORIS.—High arterial tension is not to be regarded as the determining cause, but as the one factor of pain in some cases; and whilst it is true that nitrite of amyl gives relief when high tension is present, there is reason to be cautious in pressing the amyl when it fails, for by lowering tension when already low the amyl may dangerously increase the tendency to stagnation of the blood. The cases of angina, which are due to high arterial tension, form only a part of the whole number. There are other cases which are more purely neuralgic, and which arise from the inclusion of a cardiac nerve in the inflammatory decay of an artery. It is more violent than the first form, and the intervals are more free. The hypodermic injection of morphia gives the most satisfactory result here. There are also cases of reflex angina pectoris, whose source is at a distance.—*Moxon's Croonian Lectures.*

NITRATE OF SILVER FOR WORMS.—Dr. M. P. Greensword (*Medical Summary*) was accidentally led to regard nitrate of silver as a remedy for worms. Further use of this drug has convinced him that it is one of the most potent agents we have for the destruction and expulsion of worms. He gives a teaspoonful three times a day, of a solution of five grains of nitrate silver in six ounces of rain water.

BOOK NOTICES.

SCIENCE AND THE HEALING ART; OR A NEW BOOK ON OLD FACTS.—By John Custis Darby, M. D. 8 vo. Pp. 403. Louisville: John P. Morton & Co. Price, \$2.00.

The author of this work is a physician full of years, of Lexington, Ky. It embodies the observations and thoughts of many years upon subjects pertaining to his chosen profession; and having the advantage of a well-balanced mind,

thoroughly cultivated, and stored with knowledge, the reader will find much in the book to interest and edify. Although we have not had time, since the work was placed in our hands, to any more than glance through it; yet our personal acquaintance with the writer assures us that, with his endowments, during his long life, he has been able to put on record not a little of value as the result of observation and experience. Not a few live many years without learning anything—and probably this is the case with the majority of people. To be wiser by living, it is necessary that objects which come before one or the other of the five senses should be recognized—the mind called to them—their qualities observed; if of the same order, their differences noticed; a comparison instituted and arranged accordingly, and the laws governing them studied. When many facts have thus been subjected to intellectual observation, and been stored away in the storehouse of the memory, the reasoning faculties are called into activity, which, by their deductions, lead to the knowledge of new facts, and enable the individual to employ the knowledge he has acquired to his own benefit and that of others.

While Dr. Darby's work is not a "Practice of Medicine," in that it does not take up the different diseases to which the human being is liable, and give their history, etiology, and pathology, yet in its sixteen chapters it is full of most valuable matter in regard to the treatment of diseases, in discussing the blood, excretions, animal heat, the liver, hyperemia and congestion, renewal of life, emetics and cathartics, cathartics, calomel, chronic diseases, cholera, treatment of cholera, etc.

In the treatment of cholera, we find that the author regards calomel as the sheet-anchor of hope. But to do good, he asserts that it must be given in large doses. In the epidemic in 1849, he gave in many cases *eighty grains* every two hours. He mentions one case in which he gave *an ounce* at a single dose with the effect of giving almost immediate relief. With the large doses salivation seldom happened. The theory of cure by the use of such enormous doses, he bases on the fact that, while rice water discharges are pouring from the patient, the liver is not acting at all, and, so long as it is entirely dormant, no step can be made toward relief. Small doses will be ejected; but by means of very large administrations, so great a weight of the medicine is obtained as to secure the reten-

tion of sufficient to excite the liver into action. Though a hundred times as much be administered as may be necessary to bring about the desired result, the excess, he says, will do no harm, as it will pass *per rectum* unchanged. Opium, and such like remedies, he regards as harmful, since they restrain normal glandular secretion, which must be roused before a cure can be brought about. Without reference to the large doses of calomel, we can not help but regard the old gentleman's theory in regard to the treatment of cholera and many other affections, as plausible.

We feel sure that an attentive perusal of the work will impart to the young physicians of the present time, many most valuable practical truths which will assist greatly in the treatment of disease. Every graduate on starting out to practice medicine, should secure a copy to supplement his work on practice. By doing so, we have no doubt he will add very much to his success.

THE SCIENCE AND ART OF MIDWIFERY.—By Wm. Thompson Lusk, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, etc. With numerous illustrations. 8 vo. Pp. 687. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

It has been some time since we have noticed an entirely new work on obstetrics. In the last couple of years we have noticed quite a number of new editions of old works, but quite few which have made their appearance for the first time. With so many valuable works upon obstetrics before this profession as there is at the present time, many may inquire the object of the present one. Has the author's experience and observations been such as to justify his writing and publishing a new obstetrical work, and requiring physicians to incur the expense of its purchase in order to be informed of new discoveries or made acquainted with new advances in obstetrical knowledge? The writer states that his purpose has been to present to the reader a fair statement of the changes which have been made by modern investigation, in the views entertained respecting the physiology and pathology of pregnancy, labor and childbed; and that he has endeavored to show that with advancing knowledge, the art of midwifery has ceased to rest upon empirical rules, and is already, with rare exceptions, the natural outcome of scientific principles. He has

subjected the doctrines taught to rigorous clinical tests, and has supplemented and corrected his own personal experiences by the recorded observations of others.

An examination of the work convinces us that it is a very meritorious one; and if there is not much in it not known before by experienced obstetricians, yet it will be found that the principles of obstetrics are set forth in a prominent manner, and it is shown how that the various operations proceed from them—thus elevating this branch of medicine from a mere empirical art, as it is generally looked upon, and giving it a scientific character. The more any department of knowledge is practiced as a science—developing principles, and deducing modes of action from them—the higher will be its plane, and the more useful will it be made. The surveyor or architect may practice his calling as a mere art, without understanding any of the scientific principles involved; but in doing so, he plods along unqualified for any emergency that may happen, and learning nothing new however great may be his experiences.

The student and young practitioner will find this an excellent work, well adapted to their wants. The different topics are well arranged, and the subjects explained in a succinct manner, but so as to be interesting and easily understood. A proper study of it will well qualify the student to perform all the duties of the accoucheur. The various manipulations, on the skillful performance of which success is so dependent, are made as plain as possible, and their *modi operandi* so clearly described, that any failure in their performance at the bedside would be due to want of manual skill, after they had been studied in the book before us, and not to ignorance of the steps to be taken.

The work is well illustrated, containing 226 cuts, not a few of which are new, and all of superior order. We mention these, for the reason that illustrations are of great importance in a work on midwifery, as an aid in understanding the descriptions of operations, etc.

TEXT-BOOK OF MODERN MIDWIFERY.—By Rodney Glisan, M. D., Professor of Obstetrics, etc., in Willamette University. With 130 illustrations. 8vo. Pp. 639. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$4.00.

We have the pleasure of announcing another work on obstetrics, besides the one noticed in another place; and this one, as well as the other one, is an American one.

The author very correctly states that many years have elapsed since the first appearance of the obstetric treatises of Meigs, Hodge and Bedford; and that the more recent editions of their works have not kept pace with the progress of this branch of medicine. To supply the deficiency, the American Medical Schools have been furnished with obstetric text-books from Great Britain and continental Europe, as those of Playfair, Leishman, Cazeaux and Schröder.

Of course, science is not limited by geographical environments, and a scientific man will seek knowledge in whatever quarter he can find it; yet, if our physicians have all the qualifications necessary for writing text-books for the students of our country, we think that they should do so, and the students should give them the preference. Besides, each country has, to considerable extent, methods peculiar to itself, and these are best learned from the writers of that country.

We can not say that Prof. Glisan has made any new discoveries in medicine which are set forth in his book, but we can say that he has produced a very excellent work, which is very well worthy the patronage of the profession of this country. The work is fully abreast of present knowledge, and represents the obstetric art of to-day. Older physicians, who have been for the last twenty-five years consulting the old works of Meigs, Bedford, etc., should now be discarding them, and having purchased Prof. Glisan's work, see how far it is in advance of the old works we have mentioned, in its theory and practice, in its knowledge and methods.

Medical students preparing for college and in attendance upon college, will find it well adapted to their wants.

We cordially recommend it to all.

CHEMICAL ANALYSIS OF THE URINE, BASED IN PART ON CASSELMAN'S ANALYSE DES HARNS.—By Edgar F. Smith, Ph. D., and John Marshall, M. D., Demonstrator of Chemistry in University of Pennsylvania. With Illustrations. 16mo. Pp. 101. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, \$1.00. Physicians and medical students will find this a very

convenient little work to aid them in making urinary analysis. Though small, it is sufficiently full in its directions for making chemical and microscopical examinations of urine. The plates exhibiting the microscopical character of sediments alone are worth the price of the book.

THE MEDICAL RECORD VISITING LIST; OR PHYSICIAN'S DIARY FOR 1882.—New York: Wm. Wood & Co.

WALSH'S PHYSICIAN'S COMBINED CALL-BOOK AND TABLET FROM 18— to 18—.—Sixth Edition. Washington: Ralph Walsh, M. D.

THE PHYSICIAN'S HAND-BOOK, FOR 1882.—By Wm. Elmer, M. D., and Albert D. Elmer, M. D. New York: W. A. Townsend.

THE PHYSICIAN'S MEMORANDUM BOOK.—Arranged by Joel A. Miner. Fifth Improved Edition, with Clinical Columns and Ledger Sheets. Ann Arbor, Michigan: Joel A. Miner. Order by mail.

We have given above the titles of the several Visiting Lists which we have received since our last issue. While in their main features alike, in that each one affords an opportunity for a physician to keep an account of the visits he makes to his various patrons, yet each one has some peculiar features that would recommend it to certain ones. If we should construct a visiting list for ourselves, we should have a sufficient number of ruled pages crossed by perpendicular lines to keep a daily account of all our visits to our patrons—room down the margin of the page for inserting names; and then a few blank pages for miscellaneous memoranda. Besides these nothing more. It is the object of all visiting lists to be carried in the pocket, and consequently they should be thin and light. It is a mistake, we think, to endeavor to crowd into a List an epitome of all the text-books on medicine. There is no need, in our opinion, of any printing whatever, beyond having the months and year printed at the top of the pages of the part devoted to the weekly record of practice, and a calendar on the first page. Of the four, whose titles we have given, the one of Joel Miner comes nearest our description, and which has also the merit of being the cheapest visiting list published. But equally as well suits Lindsay's and Blakiston's mentioned last month.

But the tastes of many differ from ours. Many, no doubt, would prefer "Wood's Record and Visiting List," which is certainly gotten up in the handsomest style of any. It has but little more reading matter than Miner's, but considerably more space for memoranda of various kinds. It is a beauty and very convenient. Walsh's compares very favorably with them all, and we would be very well satisfied with it. With it a physician can begin at any time during the year, and it can be used for any year. Miner's, also, has this peculiarity. Walsh's has space after the name for the street and number. It is printed on excellent paper, and is bound in beautiful red morocco. The Drs. Elmers' List has more reading matter than any of the others, and has also features that are not to be found in any other list with which we have ever met. It combines, in an admirable manner, both day-book and ledger. With all others a ledger is needed, but not with this one. It has also pages exceedingly conveniently arranged for various memoranda, with particulars. With it all, however, it is not bulky. We understand that copies can be had without the reading matter.

Every physician, whether practicing in city or country, should have a visiting list. Besides the convenience, it will be many dollars in his pocket. It will be an hourly reminder of neglected or forgotten charges, and, besides, tends to beget method.

A TREATISE ON FOOD AND DIETETICS, PHYSIOLOGICALLY AND THERAPEUTICALLY CONSIDERED.—By F. W. Pavy, M. D., F. R. S., F. R. C. P., Lecturer at Guy's Hospital. Second Edition. 8vo. Pp. 402. New York: Wm. Wood & Co. Cincinnati: H. L. Stacey.

This volume is the October number of "Wood's Library of Standard Medical Authors" for 1881, and is one of the most valuable of them. Pavy on Food and Dietetics has taken the position of an authority on the subjects of which it treats, and a copy of it should be in the library of every physician. Although to procure this publication it is necessary to subscribe for the "Library" for 1881, containing twelve volumes, yet in this manner each book sells at such an exceeding low rate, and the other eleven are so very valuable, that it would be an advantage for a physician desiring the work to become a subscriber for the whole Library of the year.

As the author rightly states, food is a subject of deep concern, both to the healthy and the sick. A physician who does not understand the qualities of the various articles of food, and is not more or less intelligent in regard to their preparation by cooking, is not qualified to practice medicine, for he is then ignorant of the first principles of the treatment of the sick. But unless he studies a work of the scientific character of Dr. Pavy's, what can he know except what he has learned from old ladies and the ignorant generally, whose knowledge in dietetics is on a par with their knowledge of disease and medicine generally? We hope that such of our readers who have not the work already will secure it, for we are confident that they will derive great advantage from its great store of information.

ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

A HAND-BOOK FOR STUDENTS AND PRACTITIONERS.—By Henry Hartshorne, A. M., M. D., lately Professor in University of Pennsylvania, Professor in the Woman's Medical College of Pennsylvania, etc. Fifth edition, thoroughly revised and improved. With 144 Illustrations. 12mo. Pp. 669. Philadelphia: H. C. Lea's Son & Co.

Having noticed this work so many times, and so well known is it among medical students, that it seems to us scarcely necessary to say more in regard to it than to call attention to the fact that it has reached another edition—a fifth—and that in this edition it has been much enlarged and thoroughly revised. All through the work we find additional paragraphs containing additional matter. Of these there has been, it is stated, several hundred. A number of new subjects, especially upon the nervous system, have been written upon. Also new illustrations have been added, and an account is given of prescribing according to the metric system.

It is a work especially adapted for medical students in attendance upon medical lectures, who, during the brief periods they have for reading, have not the time to devote to reading the lengthy descriptions of the various diseases which are contained in works on practice prepared for practitioners. It has long held a first place as a textbook with students and young physicians, and, from the improvements which appear in this last revision, we feel sure that it will, for a long time, continue to maintain its position.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

OMISSIONS.—We have on hand a number of book notices editorial articles, etc., which we are under the necessity of laying over.

We will mention here that not a few of our subscribers are still indebted to us for the present year's subscription, and some for a longer time. One more number of the **MEDICAL NEWS** closes the year. We insist upon all settling up. Our printer and all who do anything for us expect us to pay them; but how can we if we are not paid, unless we take money obtained from other sources than publishing the **NEWS**. A doctor who does not pay for his journal should not complain if he is not paid for his services. But those who are delinquent themselves are the ones who make the loudest outcry when not paid. Tit for tat does not hold good with them.

We design soon to place all delinquent accounts in bank for collection, if we do not hear from the parties.

IS GUTEAU INSANE?—At this writing the trial of the assassin of President Garfield has just commenced. The

plea, in the way of defense, from what we learn, will be that the homicide is insane; and that, being insane, he was irresponsible, and should not forfeit his life as a penalty for the killing, although the one slain was the head of the nation. Ever since insanity has been recognized as a disease, by law, throughout civilized nations, it exempts from punishment for conduct for which the sane would be held amenable.

Penalties are both for the purpose of punishment of the criminal and to deter others from the commission of crime. But the infliction of the penalty would not be punishment in the case of a purely insane person, for such an individual, in committing an act held to be criminal, is not conscious of having perpetrated a crime. On the contrary, it not unfrequently happens he considers that he has done a very meritorious act if he has slain a fellow-human being or committed some other act. Under such circumstances, evidently, any penalty imposed, instead of being punishment, would be martyrdom. As regards restraining others from like acts by means of penalties, they would fail altogether in influencing the conduct of one who is *non compos mentis*. Experience has too often demonstrated that a person, who is not in the possession of his mental faculties, can not be deterred by fear. With such it but seldom acts as a motive power. Ever since the rise of Christianity, its believers have been taught—Protestant and Roman Catholic—that self-murder—suicide—is an unpardonable sin; and, consequently, whosoever destroys his own life will lose his soul, or, in other words, bound in everlasting chains, will suffer the torments of perdition forever. Yet it is of common occurrence for priest, and minister, and others known to have led for years most pious lives, to become suicides after having lost their reason. It is thus seen that insanity is capable of eradicating all fear, and of destroying the strongest instinct in man—the instinct of self-preservation.

One of the lower animals, as a tiger or lion, is killed for destroying a human being, but not in the way of inflicting a penalty for murder, but for the object that, so far as it is concerned, there may be no danger of other persons being killed. The beast, after it has killed, has no sense of crime, for it does not know what crime is. Nor can it have any feeling of guilt. It destroys life whenever it has an opportunity, simply for the reason that it is

in accordance with a law of its being, and this law will be fulfilled in it the same as the laws are fulfilled which govern in the growing of a plant. But as we are not bound to one of the lower animals by any community and fellowship, and as we are under no obligations, compared to what we are to a fellow-being, to respect its life, we choose the most direct and safest mode to protect ourselves against its ferocity, and, therefore, shoot it down when we find it roaming at large. But such a procedure in the case of a human being would be the greatest inhumanity.

It has not been many years since mental physiology and pathology became so developed as to give us something like correct notions in regard to the responsibility of insane and weak-minded persons. Up to comparatively a few years ago, many poor, unfortunate beings, irresponsible for their acts, and no more conscious of crime than a little child would be who did not know what was meant by crime, and consequently could feel no guilt, ended their lives on the gibbet; but now, thanks to the progress of psychological knowledge, more correct ideas obtain, and, although there may be a tendency, and probably there is, to too greatly extend the limits of irresponsibility, and consequently permit many criminals to escape the penalty of their crimes, yet it is better that that should sometimes result than that a heinous act of cruelty be perpetrated by enforcing the extreme penalty of the law upon a poor, unfortunate, insane one whom a providence has deprived of reason.

Insanity may involve, more or less, all the faculties of the mind, or it may be only partial; *i. e.*, a person undoubtedly unsound in mind, as regards some of its functions at least, may yet be able to reason quite correctly upon most subjects. Such an individual we call a monomaniac. The editor of the *Medical Record* says that he has that form of monomania which has been described by the Germans as *primare Verrucktheit*. He defines it as a disease "in which deluded opinion forms the striking feature, though delusion is not always present, while there may be with it some perversions of the emotions, or some illusions, simple or transformed." He then quotes from Spitzka (St. Louis *Clinical Record*, December, 1880), who says that "the general intellectual status of these patients, though rarely of very high order, is moderately fair. A

monomaniac is frequently crochety, irritable and depressed. He concludes that he is a personage of some importance. Some great political movement takes place, he throws himself into it, either in a fixed character that he has already constructed for himself, or with the vague idea that he is an influential personage. He seeks interviews, holds actual conversations with the big men of the day, accepts the common courtesy shown him by those in office as a tribute to his value, is rejected, however, and then judges himself to be the victim of jealousy or of rival cabals, makes intemperate and querulent complaints to higher officials, perhaps makes violent attacks on them.

This description shows very well what are some of the occasional phases of monomania; and, as the *Record* says, though written in 1880, over six months previous to the time of the murder of the President, corresponds curiously with the actions of Guiteau. But actions, it goes on to state, almost similar may be performed by perfectly sane men. "They do not prove insanity, but are simply liable to form a part of the clinical picture of one form of that disease."

The history of Guiteau exhibits undoubtedly a hereditary taint of insanity. An uncle and two cousins have been insane. If we recollect rightly, he has at this time one or more relations in an insane asylum. His father at one time exhibited an unbalanced condition of mind by leaving his friends and joining the Oneida community, and Guiteau himself was with them for several years—we believe six—and was compelled to leave them in consequence of some peculiar conduct, which we now do not remember. During his whole manhood he has wandered about the country with seemingly no settled purposes, representing himself as a preacher, lawyer, politician and author, exhibiting no derangement of the intellectual faculties particularly, but showing a disordered state of his emotive functions by his moral perversity. His egotism and self-conceit at all times were disgusting; he never seemed to feel any obligation to repay money borrowed, and accepted any favor done him as a matter of course, without seeming to feel any indebtedness for it; he appeared incapable of shame.

It is mentioned in the New York *Record* that in his lectures, for at times in his vagary he assumed the role of a lecturer, at which he was unsuccessful, he defended a

seeming delusion in regard to the second coming of Christ, which he asserted took place in the year '70 at the time of the burning of the temple. But this may not have been a real delusion, but may have been an actual notion, founded upon insufficient data, or a pretended belief for the purpose of notoriety. It is a common experience to meet persons of unbalanced minds, self-conceited, to advocate outlandish views apparently for the purpose of making themselves prominent and to obtain notoriety. We can not, however, regard such as insane. They are undoubtedly responsible for their conduct, when it comes to the commission of crime; but we do not expect from them dignified behavior, or to hold reasonable views upon any subject.

Such an individual as Guiteau, irrational, vain, silly, without moral principles, having no definite purposes in life to guide him, we would expect, when deeply wounded in his conceit, to harbor the most intense hate, and nourishing this feeling from day to day by pondering over his supposed wrongs, for he would view contempt for himself as injury, he would be apt to devise means for revenge, and seek opportunities for accomplishing them. In such cases only fear deters; for persons of the kind have no moral scruples, and are only held in restraint by cowardice. In this respect there is a marked contrast between them and the really insane, who know no fear. Guiteau, since he has been under apprehension, has shown at times the most abject fear and contemptible cowardice, although he plays the bully, threatens and browbeats whenever he is not in fear of bodily harm. During the two or three days his trial has been going on, he has bullied his attorneys, demanding them to give up his case, saying he could conduct it better himself, as he is an experienced lawyer, who has practiced law in Chicago and New York, when, it is known, he never had a case intrusted to him, and he never did any legal business higher than to collect bills, the proceeds of which he always kept, never paying the money over. Again and again, too, he has had the audacity to bully even the judge on the bench, and been guilty of many other acts of extreme insolence. In brave manner he has threatened to appeal to the nation, as if the people were in any other way solicitous about him than that he should be hung for his infamous crime. Such conduct, he imagines, under the circumstances, will make

him notorious, which, to his low order of intellect and feelings, is synonymous with fame. And for a notoriety that would be world wide, he would probably even be willing to die, notwithstanding his miserable cowardice; especially when he would hope that there would be attached to it the notion that he was a hero, who had brought about a revolution in the country, having pulled down the exalted and elevated the humble, and who had displayed unheard of courage during his trial.

But as our time is too short to discuss at length, at the present time, the subject of Guiteau's insanity, we have thought we would quote at length the opinion of Dr. Allan McLane Hamilton, who is widely known as an authority on nervous diseases, and is consulting physician to the State Insane Asylum at Poughkeepsie. He regards Guiteau as belonging to a larger class of persons than most people suspect the existence of. He says he is a subject of the "insane neurosis" of Maudsley, or insane temperament.

We have no doubt our readers will be greatly interested in the remarks of Dr. Hamilton. He proceeds to say that this matter of insane neurosis is one of a wide bearing, which deserves more attention "from physicians and from fathers than it has yet received. It manifests itself in different ways. In ninety-nine cases out of one hundred it leads people to nothing more than harmless eccentricity or hypochondriasis, and frequently is never noticed at all unless by some physician interested in such matters. The importance of recognizing the gravity of the subject is imperative, but the recognition of the insane neurosis is no new thing. Maudsley gives it prominence, and in his works calls attention to its latent evidences in a large number of persons.

"To define exactly in what consists an insane temperament is not easy. Perhaps it might be said that the mind of such a person is neither sound nor sick. It is in a condition when judicious treatment will restore its powers, and prevent the development of peculiarities; or injudicious treatment aggravate the trouble until pronounced insanity may ensue.

"For instance, a child may fly into a passion whenever it is laughed at, or commit some purposeless, vicious act. The weak point in its mind is evidently hereditary, and some over tender moralists might say that as such the

child is no more responsible for the weakness of flying into a passion when laughed at, than an idiot is to be blamed for not being able to reason. It should be tenderly counseled. Nevertheless, the right treatment is to overcome by rigid discipline the peculiar eccentricity in the child at once, for the child's sake, for society's sake, and for the sake of the child's children. It may be, and doubtless is, a fact that thousands of children who have had some such weakness have grown up without a conspicuous trace of insane heritage about them, it having been rubbed out, or has died out for want of proper environment for an unhealthy growth. But it might have been otherwise, and developed into that form of ungovernable rage or egregious vanity which some eccentric persons exhibit at times to the extent of taking the law into their own hands to the injury of society, or murdering a President; such eccentricity is characterized by emotional changes and moral dullness, but intellectual strength is marked, though diverted into curious channels. Buckwell and Tuke spoke of this class as follows:

"The eccentric man of the second class deviates from the ways of his fellow-men from weakness of judgment, from love of applause, and desire of drawing upon himself the attention of others. As a rule, however, a large proportion of the persons who become laughing-stocks on account of absurd vanities, or who become troublesome to their friends or the public on account of absurd scheming or ridiculous behavior, will be found to have intellectual powers of a low order, a great desire for approbation and little individuality. The eccentric tendency is seen among a large number of people. When it is strongly enough marked to attract general attention, especially if the eccentricities of such persons are of an unpleasant character, he is forgiven because he is weak, and avoided because he is vicious. Is such a person insane?

"By no means, more than the man who, born with a tendency to alcoholism, gives way to his appetite, which in the beginning he might control, but which afterward leads to the gratification of his craving, and the commission of crime in a drunken craze.

"In the case of Guiteau there is nothing to show insanity as a disease either in his previous vicious career or in his last atrocity, and as far as delusions are concerned I can not see that even if Guiteau really believed God

wished him to kill Garfield, that 'the Lord and I did it,' as he says, it will constitute a delusion. Many men believe that God wants them to build a church, or found a hospital, and they do it, and are not considered insane. If Guiteau had said he talked with God, and God had told him to kill the President, that would be a different matter. Looking at Guiteau's case in the light of what we know of his past, and what he has written in the shape of confessions and addresses to the court and public. I can not see that his case differs greatly from those of several other men who have committed crimes simply for the notoriety of the thing. The more vicious the person, the more atrocious the crime. To sum up Guiteau's case, I should say that he was not insane upon the following grounds: That while of insane temperament, probably hereditary, he is intelligent enough to know the difference between right and wrong, and the consequences of his act, and had sufficient mental capacity to control himself. I have read some of his political and religious speeches, and find full evidence of this in them, although at the same time it must be borne in mind that an intelligent speech is no proof of the author's sanity, because I often hear as brilliant talk inside mad-houses as I do outside of them, and Guiteau was not sane the day he wrote these addresses, and insane the day he shot the President. He did not shoot in a fit of homicidal rage, such as we see in some dangerous lunatics, nor under the influence of an all-absorbing delirium.

"His conduct since his arrest shows no signs of insanity, but points unerringly to the conclusion that he is one of that large class of vicious, but perfectly responsible, persons whose disregard of the decencies of life and diseased vanity should have been stamped out by wholesome discipline long ago. Herbert Spencer is perfectly right in saying that with many children punishment is the only true method and kindness the mistaken one. Spencer says that if any young child bites or inflicts physical pain, it should be made to feel pain of the same character. Misdirected intellectual correction is often useless, but one or two wholesome lessons given to the viciously inclined child will avert much subsequent suffering. Vicious persons, whether adults or children, I believe, should be punished in proportion to their misdeeds.

"Had Guiteau been properly trained in childhood and

early youth, the insane neurosis with which he was born might have led to nothing criminal, or might have been smothered as in thousands of other cases. We have records of cases in which several years of discipline have made excellent men and women of the child vicious beyond conception, who, if allowed to go on, would have ended in mad-houses, after the commission of some particularly horrible crime. It is not at all impossible that if Guiteau is allowed to live, he will die in a mad-house, for his form of eccentricity gains strength with age and indulgence. His success in escaping the gallows will also have a pernicious effect upon other cranks like himself, just as in a school when one boy goes unpunished, others take courage and plunge into all sorts of mischief. Bad, vicious conduct may just as well become chronic as good conduct. It is a matter of temperament and training, the latter being of more importance than the first. He found all his life that people would not punish him for petty swindling or for gross immorality, and he went on from bad to worse simply because he was not stopped before."

INHERITED SYPHILIS.—A very interesting article thus entitled appears in a recent issue of the *Proceedings of the Medical Society of the County of Kings*, by H. W. Read, M. D. The writer quotes the law of Colles: "That a child with inherited syphilis will never infect its own mother, though it can infect a healthy wet-nurse."

"Since this law was enunciated," says Dr. Read, "forty-three years ago, no authentic exception to it has ever been recorded among the immense number of cases observed. It may, therefore, stand as proved. Now, if it can be shown that the mother of a syphilitic child can not only not be infected from her offspring after birth, but *from no other source*, the case stands proved." He then states that no case has ever yet been reported of a woman bearing a syphilitic child, who was *ever afterward* infected with syphilis *from any source*.

He says, however, that the statement does not stand on a level with "Colles' law," and will require years of observation for proof; but no exception to it has ever been noted. "Caspary attempted the only positive solution of the question. He found a seemingly healthy woman with a syphilitic husband and a syphilitic child. *He inoculated the woman with the secretion of syphilis without effect.*"

As proof on this point Dr. Read relates the following case in his own practice:

"E. H., a healthy nurse maid, sixteen years old, became pregnant by her employer, a gentleman who had contracted syphilis several years previous to this event. She continued well and strong during her pregnancy, and was delivered at full term of a fine-looking child, which, however, at five weeks showed roseola mucous patches and snuffles. It was treated and recovered, had two relapses, from which it also recovered under anti-syphilitic treatment. The mother showed no signs at any time of syphilis, at least none that could be detected.

"Nearly three years after the birth of her child, she was married to a young man, whom she brought to me for treatment about three weeks after her marriage. I discovered a hard chancre on the frænum of his penis, which he assured me appeared only ten days before his marriage, and of the nature of which he was unaware.

"He afterward acknowledged to have had impure connection with a woman of the town some weeks before the appearance of the chancre.

"He had had repeated connection with his wife, but a careful examination of her showed neither chancre, mucous patch, nor anything abnormal. The husband afterward had secondary trouble severely, but the wife, though she has twice aborted, has never shown any symptoms of specific disease, now some sixteen or eighteen months since her marriage. This case may, I think, be regarded as strong evidence.

"The woman was repeatedly exposed to the virus of the chancre, with perfect impunity. Neither before nor since marriage has she ever shown a symptom of syphilis, though always under observation and repeatedly examined."

In another part of the article the author asks the question, "Can a healthy woman have a syphilitic child? or, in other words, Is not a woman who has a syphilitic child necessarily in some degree syphilitic?" He replies affirmatively to the question; and, in still another place, makes the statement that every mother of a syphilitic infant is affected with a variety of the disease, which may or may not be accompanied by secondary or tertiary lesions, but which is *protective* against another attack. He says that Mr. Hutchinson recognizes this fact in the distinction which he makes between "blood syphilis" and "chancre syphilis." He is emphatic, therefore, in his conclusion

that a woman bearing a syphilitic child can never *afterward* become infected with syphilis *from any source*.

An exceedingly interesting fact is, if it actually be a fact, which Dr. Read quotes from Diday, Ricord, Cullerier, and Colles, and which we have seen mentioned by others, that women having had syphilitic children by syphilitic husbands (themselves remaining free from any symptoms of the disease) have born syphilitic children to a *second husband* who was an *entirely healthy man*. How such a phenomenon, for we do not know how else to term it, can occur, it is difficult to determine. In some way, we presume, if it be a fact, which we do not believe, the disease must lie dormant in the woman's system, but existing there. It is remarkable, though, that when awakened to activity by a second pregnancy, and it a healthy one, its force should be limited to the foetus, and not be manifested in the mother.

If it should be true, as thus stated, there would be room for charging Nature as acting unjustly, in that penalties were entailed upon innocent parties. We could admit the justice of children, to the third and fourth generation, suffering for the sins of their progenitors, but we can not see the righteousness of entailing vile and terrible diseases upon children, for the offenses of those who are not their fathers. Although Nature is often exceedingly severe in the way of penalties for the infraction of laws, and is no respecter of persons, yet when we come to study the laws, and trace the design exhibited in them, and the necessity of their observance for its complete fulfillment, we generally have to admit their justness, and very often to conclude that, if our understandings were enlarged, their righteousness would be still more evident. Although many will be disposed to reject any reasons to determine pathological questions, which they regard as smacking of theology, yet, in this instance, we are disposed to disbelieve that a child can have syphilis entailed upon it, through its mother, by a man who is not its father, for the reason, if no other could be adduced, that, if it were the fact, it would be inflicting a cruel wrong. We, therefore, must withhold our belief until more proof can be adduced in evidence, that a man who marries a woman who has begotten a syphilitic child by a previous syphilitic husband, she herself never exhibiting any symptoms of the disease, is liable to have born to him a child having syphilis.

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ORIGINAL CONTRIBUTIONS.

The Practice of Medicine: a Business or a Charity?

BY E. H. COBLEIGH, M. D.

FROM time immemorial the expressions, "our noble calling," "our grand life-work," "our mission of charity," and similar sayings, have been heard from the lips of medical men and seen in the prints of the day. Seemingly, the profession rolls these terms as sweet morsels under its tongue. They have grown into stereotyped expressions for our literature, our public gatherings, and our private meditation, until neither seems complete without them. And as they have grown in general use, they seem to have kept up a like ratio of growth into pure reality, until familiarity has, or soon will, breed contempt. Is it not time to call a halt, time to cease this display of professional egotism, and get down from the heights of theory to the humdrum realities of practicability and fact?

For my part, I am tired of this nonsense and twaddle. We belittle, instead of aggrandizing ourselves, by all such cant and sentimentality, and while claiming our rightful meed of public prestige, as a legitimate and honorable profession, let us cease to longer make ourselves ridiculous. Let us step from the pinnacle of superstition to the level of our co-laborers in other professions equally as reputable, and less self-laudacious, than ours. Business is business; let us get down to it in a business manner, and prosecute it diligently in accordance with the rules governing other affairs.

I was perusing an article in a Chicago medical journal, some time ago, on the relations of physicians and drug-

gists, and was impressed with the similarity of the writer's views—so far as they go on this subject—and my own. He argued for the dispensing of our own medicine as a business matter, and his ground, to my mind, was well taken. I am glad to see some who are not afraid to speak out, although their sentiments come in conflict with the preconceived and inculcated notions of the masses, even though they run against and demolish old landmarks. No religion was ever so sacred but some free-thinker rose up and assailed it; no doctrine ever failed to awaken skeptical opposition. And though at first these pioneers of thought seemed in error—sometimes really were wrong—and their teachings apparently did harm, yet they actually accomplished good, by controversy, either in establishing the more firmly existing truths, or introducing a new and better order of things. This is an age of progress and intense practicability. Landmarks and theories, unless useful and true, must go by the board. Errors must fall before an approach to truth if not truth itself. Is not the ideal, of our extremely matter-of-fact calling, an error, and ought it not be rooted out? Is it not clogging us, and working harm? Let us reason together and see.

What are our true relations to the people? I hold that, in public opinion at least, we occupy a false position. It is time, has long been time, for a radical change in this matter, though I do not expect it to be accomplished all at once. It came and took root slowly, and must go in the same way. But we, as a profession, are largely responsible for the error, having been active in blazoning it before the people, until it is inculcated beyond our power of sudden eradication, and now we should shoulder the responsibility, and boldly begin the tedious labor of undoing our own, and our predecessors' mistake.

Let us see how this false impression of our professional relations springs up and is propagated. A young man, who has perhaps all his life heard more or less of the "grand profession," etc., of medicine, concludes to adopt it for a business. From the initial point of his studies, first, his preceptor, and later, the faculty of his school, and the public, drum into him that it is almost a divine institution, the holy of holies. Such instruction goes on. Every man choosing this magnificent avocation is likened to a demi-god, compounded of colossal wisdom, endless

patience, tireless self-denial, unbounded charity, capable of defying (in person at least) every known sanitary law in the prosecution of his arduous, but noble, calling ; able to bear crosses joyously, content under poverty and privations, thriving on irregular hours, enduring every hardship cheerfully, and amply recompensed for it all by the privilege of going about doing good, and that self-gratification of conscious duty well performed. This idea comes to him by degrees, partly from teacher, partly from an admiring public, and is partly conjured up by his youthful fancy. The standard of excellence is seldom applicable to those physicians of his immediate acquaintance, especially if they happen to be competitors of the preceptor (!), but is applicable to the profession at large, and he firmly resolves to live up to it, always, however, with a mental reservation, and an expectation that his personal merits will render him an exception to the general rule of impecuniosity, and enable him to make money along with all his philanthropy. Thus the ideal grows, built upon romance, the æsthetic physician, a paragon of excellence, blending virtues, natural and supernatural, a missionary to all people. The student imbibes it, the maturer practitioner spouts it, and the people applaud. Now, this is mostly false and all wrong, I have heard these absurd theorems, in substance, if not in literal expression, from boyhood to the present hour. Once I believed them, but now I am disgusted to hear people of average intelligence, and some of them physicians, too, indulging in such baseless platitudes.

I would not lower the dignity of my own profession one whit. I appreciate what of merit and good there is in it, and to a reasonable extent I applaud its heroism and self-sacrifice. When we go beyond this point, like a Don Quixote of old, we enact a mere farce, descending from the sublime to the ridiculous. Why seek to put, or to keep, the ideal of our calling way up on a mythical plane, far above anything attainable by the human nature of this age ? In our practice we are expected to manifest and be guided by sound common sense. Let us apply like rationality to the matter now under consideration.

Most persons select medicine purely as a business matter. They go into it for the purpose—some for the sole purpose—of earning a livelihood, just as the editor, the merchant, the artist, the mechanic, goes into his particu-

lar avocation with that end in view. This is well and good. A few see farther, and, in additon to the livelihood, perceive an opportunity to elevate their minds, and do a trifle of good in the world as they go along. This is better. Only a very few go into it from a missionary spirit alone. Yet, in theory, the whole thing is based on these latter ideas.

My acquaintance with medical men, including all of the "pathies" and "isms," has been rather extensive, embracing the various grades of talents, and covering several States of the Union; and my experience, resulting therefrom, leads inevitably to the conclusion that physicians are *very like other men* in nature. They are swayed by the same impulses, harbor kindred passions, manifest the same likes and dislikes, the same ambitions and prejudices, and seem to hold a common heritage with the rest of mankind. Of course our peculiarity of education, training and habits of life modify us some, as does the like process in other lines of intelligence and business. But there are no more heroes, no more intellectual giants, no more real philanthropists in our ranks, than abound in the same ratio among the devotees of kindred callings in professions or in trade, here or elsewhere. We are doctors, but we are human still. We are doctors for money, doctors for influence, doctors for fame, and "some there be" who are doctors for good, for charity, for Christ's sake. Is it out of the natural order of mundane affairs that all should belong solely to the latter class, doing what they find to do for the mere hope of reward in the life to come. We must be fed and clothed, as also our families, and as in other pecuniary matters, so with us, we must observe the sound laws of financial self-protection, even where sometimes they may conflict with the precepts of philanthropy.

Let us study the case as it actually exists. The newly-fledged M. D. leaves college, diploma in pocket, and locates in his chosen field of work. He has no practice, of course. If he is dependent on his own resources alone for a start, he must be patient. The paupers and those dead-beats who are in debt to his previously established competitors soon flock to him for treatment, with, perhaps, an occasional patron of standing and means. He needs practical experience, and welcomes all alike for the benefit to accrue to himself in clinical observation and experiment.

Beyond this, he sees the opportunity to get before the people in an humble way, and establish influence and reputation. There is some trifle of charity in his motives, perhaps, but it is mainly "self" after all. A few months, a year, or maybe two, pass, he begins to press for pay, if financially needy. (If otherwise, the chances are that he won't dare to present a bill, for fear of losing friends.) The paupers can't pay, the dead-beats won't pay, and probably the better patrons stave him off to a more convenient season. They have rent to meet, or taxes, or stock must be bought, and a score of other excuses; and he will wait, of course; he is a doctor, they all wait; he must be rich anyway, for he gets two dollars a visit, and can make ten or twenty a day; that foots up an income of at least \$3,500 a year. Gracious! what a profitable business it is; and he is only just starting, too, with lots of patients.

Poor fellow, he begs and coaxes (or, oftener, borrows on the hope of the future, if his credit is sufficiently good), gets a small windfall occasionally to eke along on, and toils as before. If he cuts off the paupers, execration is heaped on his head by the wealthy citizens. The dead-beats are many of them members of the middle class of society, possessing some influence, he dare not cut these for fear of ulterior reaction to his own disadvantage. The better class—well, who ever heard of a doctor suing on a medical bill? Tersely, through personal need and ambition, he is the creature of necessity, fraud and caprice on the part of his three several classes of patrons, a mere puppet in their hands. This is absurd, puerile, yet true, and the people expect nothing else. It is somewhat on a par with the following: Having named over the several physicians who had lived and died, for a couple of generations, in a certain town of wealth, I remarked that, strangely enough, none of them, even by large practice, had accumulated some means. "No," replied one of my listeners, resident there, "the people would not permit it in our section of country. We will give a man a good income, sufficient to live on comfortably, but no more. If he does more work than this, he must do it for nothing. A suspicion of accumulating wealth would alienate the mass of his patrons." The speaker, an intelligent man himself, indorsed that sentiment. But would he have applied it to the industrious farmer, the thrifty mechanic, or

a shrewd banker? No; only to the noble (!) and divine (!) institutions of the clergy and medicine.

If the young physician has influential friends, or marked ability, he will fall into a fair practice rapidly, and if he can secure a partnership with some older head, he starts well at the very outset. But, some will ask, what do you mean by the expressions "starts well" and "fair practice?" I mean that he will get an average business, which involves an immense amount of hard work, and, perhaps, a decent living. This, in most cases, will be all. Exceptional instances of competence secured by legitimate practice are noticed; but most of the wealth possessed by physicians is by heirship, by outside speculation, or comes through business for which actual practice has been either wholly or in part abandoned. Few get rich in the professional harness.

Once established, what then? Your patrons praise, and your enemies calumniate you. The former are intensely affectionate when they or their friends need your services. But they hate your bills. They like to receive benefit from your ministrations, but, in a vast majority of cases, they dislike to remunerate you therefor. They dodge you in the highway, lie to you about settling at home, dispute your account, belittle the services received, patronize the druggist if they owe you, when the case admits of it, rather than face you again, and especially when they can get your previous prescriptions duplicated. They will pay almost every other bill before making a weak effort to meet yours. And, lastly, having perhaps obtained a discount from regular price allowed by you, reluctantly, in order to secure payment at all, they bring you damaged produce, and seek to charge therefor from ten to one hundred per cent. above the market price. The *amiable* doctor accepts, glad to get even at any sacrifice, except friendship. Alas! this is no fancy picture, to emphasize a point! 'Tis a reality of every-day life, doubtless familiar to every one of my readers by personal experience. This is the reward for talent, for hours of hard study, for responsibility which ages the bearer, for outlays for instruments and books, for actual services rendered. Noble profession (!!!) immense glory (!) great success!

If you owe one of these same parties a dollar, the chances are he will be hounding for it before the debt is a day old, and often, too, when your account will largely

overbalance his. Nor are these people alone of the lower social orders. Respectability—save the word!—and wealth often treat you so. Why? Because we do not transact our business on sound principles. And who is at fault? We ourselves, as much as, or more than, any one else. We have taught the laity that we are a charitable, self-denying, long suffering people both by precept and practice. We are too high minded to care for sordid gold. They believe it, and we suffer in consequence. They laud us, use us, starve us, and expect our gratitude. We are tolerated as a necessary evil, it seems to me, and “fed on the taffy” of theoretical adulation, *at nauseam*.

What is the remedy? A reform of our customs. The laborer is worthy of his hire. We are expected to keep abreast of the times in attainments, to give the best of attention and skill, and this means hard study and close observation, as it now is. When this is done let us charge for it according to its value, to its cost of time, trouble and expense to us, *and let us get our pay*. Get it as the merchant tailor, manufacturer gets his; get it in a friendly way where possible, and, where not, force a settlement, if necessary, by legal means. Let the world know what we have *to sell*—not to give away—learning, experience, practical and useful advice, for the healing of nations. Let the world understand that it requires cold cash to buy our commodities, wholesale or retail. It would even be well to demand cash on delivery of the article bargained for at each visit, or certainly at the close of the case. This custom obtains in a few American localities, but they are exceptions to the general rule.

Well, I hear myself stigmatized as a heartless, cruel, mercenary wretch. Of course. This is not tradition. It is heterodoxy. So be it. *Fiat justitia, ruat cælum*. I ask but this—justice to us, as well as others, where too little has been obtained heretofore. But few ever receive justice unless they demand and set about obtaining it. As a class, we are poor collectors. Why? Surely not from any of the benevolent attributes generally credited to us, as I will show right here. Dr. A. is a young man, as herein before mentioned. He has three reasons for not collecting—he can not, he dare not, and it would be impolitic—from the three grades of patrons severally. His business might be driven to some one else. Dr. B.

is older, but not at the top. He fails to collect, lest Dr. C., a rival, with equal prospects ahead, outstrip him in the race. Dr. D. is the local Solomon with unequaled practice. He is easy with debtors, to hold his own securely. Dr. E. is naturally careless, and too indolent. Dr. F. is wrapped up in study, and has no time for it. Dr. G. has speculated, and does not need it. So of Dr. H., who owns a farm which supports him, and Dr. I., who is a silent partner in a drug store, and Dr. K., who gets a percentage on prescriptions. High motives all of them. Oh, yes! Yet this failure in the fundamental principle of business success is usually credited to disinterestedness and absorption in studies for the public good. In *fact*, it is only the result of ambition, policy (and short-sighted at that), vanity, competition, and might all be summed up as cowardice.

But, 'tis urged, this plan will never do. It would necessarily cause suffering and death among the deserving poor. Reader, I have the kindest feelings for the poor. Our skill is our own, and just as the benevolent merchant gives his sugar, his calico, his flour, or the banker subscribes his dollar in cases of actual need falling under his personal knowledge, we have a right to donate it when a worthy object appeals to us for aid. I have no frown for this, only approval. The great trouble here is that public opinion creates thousands of deserving medical paupers, who are, by the same authority, considered abundantly able to pay the cash for all their other needs. Here is partiality to our disadvantage. I only ask to be placed on a par with all other men of like means as myself, in the matter of giving. If I choose, voluntarily, to exceed my full share of beneficence, well and good; but I deny any person or power the inherent privilege to demand this as an abstract matter of right. Why should a dozen or two of men in a community bear the whole burden of charity for that community? It is not just, and here again is a field for reform. Because I am a physician is no reason, except in public estimation, why I should be more benevolent than any fifty of my neighbors more able, financially, than I am myself. Yet this is the rule. A friend once remarked to me, on hearing me refuse to visit a dead-beat, who had twice defrauded me previously, "If I was a doctor I would go to every case, pay or no pay. I would do it for the experience, the reputation and

charity of the thing; and, further, I would not patronize a man who would not do the same. Go with that boy to his father as your duty requires." I disputed his statement, refused to go, informed him that if he was a sensible practitioner he would always act in self defense, and entered into an argument on the subject. I closed thus: "You are as human and as selfish as the rest of us, and you will patronize the man you have confidence in as skillful, experienced, able to ease pain or save life, in spite of either his charity or otherwise, just as long as you think him able to give you value received for his fee." He was my patron at the time and is now. His threat was earnest, and he meant it, but 'twas passing sentimentality, easily set aside by logical reasoning from a fair and unprejudiced basis. That doctor who will go to all who call him, regardless of reward, will spend fully half of his time, or more, in gratuitous services. Is any other profession or trade, except where regularly employed for such labors, expected to work thus? By no means. The poor we have always with us, as we are sadly aware, but 'tis no one man's work, no one set of men's work, to shoulder the entire burden of their care, either in sickness or in health. I wish to work no hardship on this unfortunate class, yet it is necessary for us sometimes to seem harsh and uncharitable for the sake of forcing right out of wrong. Some States and counties, or municipalities, have recognized the equitable from the unjust, and doctors are salaried by them, as is right, to care for free dispensaries, or act as district physicians. These men are paid for their services, and the whole community is taxed for the purpose, thus giving equable distribution of a public burden. The medical employe, as a tax-payer, bears his rightful share, and helps in paying his own salary, which is all that ought to be required of him, or of any of us. Now, such a custom as this should obtain everywhere, where wealth and poverty exist side by side, as is universal. And it is our province, as a profession, to force it gradually, by continual agitation, in public and private, by educating opinion up to this standard, even the unpleasant method of absolutely refusing to be public slaves without remuneration, where life is not jeopardized, or too great suffering entailed thereby.

Let me here instance one of several similar cases occurring to myself, as an example of the tyranny and self-

ishness attempted toward the profession. A man of property called for me to visit one of his household, an intelligent, energetic white girl acting as servant, and some years old. "She is an orphan," he remarked, "and has no relatives, and no means to pay you with." "What wages do you give her?" I asked. "Nothing but her board and clothes," was the reply. He owned, on my asking, that she was a splendid servant, and he wanted her well cared for (medically), and set on foot again, as he needed her services badly. I scouted his niggardliness, and refused to go, except at his expense, and he departed in high dudgeon, only to find a more servile tool for his small-souled domination, in the person of a more charitable and high-minded physician. If I had had co-operation on the part of all my colleagues I could have forced a fee out of this contemptible fellow, and he would have more than got value received—as he did any way—out of his hard-working girl. Often they come requesting medical attention for tenants on farms, or for laborers in their employ, and they gratuitously remark, "Hurry up and get him well, as I need his work. But if you suggest pay, they say he owes them already, or they don't wish to stand good for other people's debts, and this, too, when no one but themselves is receiving any benefit from the labor of the patient, whose toil they are profiting by to the utmost extent. This kind of philanthropy is "played out" with me, and ought to be with all of us.

Prof. Agnew, in a recent introductory lecture before his class, is reported to have said, in substance, that "he never knew a medical man to attain distinction who practiced with a pecuniary motive. This is the æsthetical idea again, and I fear the respected surgeon has overshot the mark in his ambition to dignify our calling. Some of our shining lights accumulated wealth. How? As the physician rises in influence, practice and income, he very naturally cuts off a major part of his non-paying patrons to devote his time to the better classes now seeking his services. That is very human, again, but *he*, of course, does this purely for the sake of giving younger (and more needy) men a fair chance to attain experience for the common good. As reputation and skill increases, he charitably raises his fees to a gilt-edged figure, which only the *creme a la creme* of society can reach. Now he moves in a congenial sphere, and casts bread upon the

waters in shape of wide aphorisms on charity. He perhaps gains some chair in a college, if his merits warrant it, or acquires position on a hospital staff. Here practical charity is an actuality; but he is remunerated therefor either in dollars, or in increased lustre of professional repute, extending his influence, his practice and his income, or in both. This is all right, and I raise no objection thereto, but I protest against their casting back to us poor souls, on the lower rounds, scraps of impractical wisdom on our duty. Such are many of our leaders, nursed in the lap of luxury. I honor their talents, and I emulate their financial examples. And if I am to judge Prof. Agnew's monetary ability and shrewdness, by the bill* which the press report as made by him in the case of late illustrious and lamented President, and I am one of those who do not think it exorbitant for our Government to pay, he, as well as some of us among the humbler lights, wisely, shrewdly, and correctly has an eye to income and the main chance.

But, say some, would you do away with the noble heroism displayed in our terrible epidemics, as at Memphis, New Orleans, Shreveport, Grenada, etc.? Not at all. Yet stop, let us look into this matter with an unprejudiced mind. I happen to have known the particulars in some of these cases. Those outsiders who rushed to these and other plague-cursed cities in their hour of woe, were of three types: 1st. The martyr spirits who went in Christian heroism and purpose—all honor to their names. 2d. Those, who, thinking themselves secure from liability to infection, went for glory, for profit, or for both, but with little or no spirit of true philanthropy. 3d. The impecunious, who, in the desperation of poverty and want, rushed madly into any danger for the sake of relieving their destitute families by the wages of death received. Of these classes there were physicians, nurses, druggists, clergymen, operators and others. Mark you some of these noble souls were *not* of ourselves. The great, grand profession (!) was not the only industry represented. Heroes ever rise in great emergencies, and ever will, and doctors

* The report circulated in a number of newspapers that Prof. Agnew had presented a bill for services as consulting physician in the case of the late President Garfield is not correct. He has not presented a bill. The mistake, however, does not detract from the very able argument of the writer.—[Ed.]

did not distinguish themselves to the exclusion of the baser elements. Not at all. And doctors there were who displayed as great cowardice as the common herd. So in the war of the rebellion and all wars. Medical men were, very naturally, in the minority in active service, so it will be seen that medical men are very natural men. This is the whole of my argument, and I make it without any desire to wilfully detract from the worthy honors won or worn by any hero in our profession. I only ask that we give what is due, get what is due, and refuse to do or take more. We *are* human and natural, let us own it, insist on it, be proud of it, and act like our business equals and financial superiors.

With all the foolish cant about us, the flattery and laudation in the abstract, let a doctor get involved in a malpractice case, or the breath of scandal touch him—however unjustly—and he will find that a hornet's nest is stirred up in the concrete. Public sentiment arrays itself against him with unanimity and intense bitterness at once. He is denounced and execrated on all sides. Never was this more forcibly shown than in the public criticism of President Garfield's medical attendants and counsels. So it goes, laudation in theory, condemnation in practice. The world admires us collectively; and prescribes nostrums and patent medicines, or herb teas, for our patrons individually. When a patient recovers, some household remedy, or the nurse, gets credit for the miracle; when he dies, we don't divide honors with any one. The druggist honors us by duplication, counter-prescribing and nostrum vending; then aids in expending our slender income by selling us our drugs. Quackery financiers and thrives; we follow a ruinous financial policy and languish. The people admire the business-like methods of the charlatan, for they expect it. And, gentlemen, they would admire and respect it in us if we gave the same opportunity to see and expect it. My experience is that the prompt collector fares and flourishes the best in the long run, and for my part I have adopted a policy of "short credits make long friends," and propose following it to the end.

From the foregoing rather extended remarks it seems to me that I make out the following case: The world is not our creditor, except in fulsome gush. It is our debtor in actual service rendered. It has antagonized us and

other sciences, almost or quite from the cradle of intelligence, through all ages, even until now. What discoveries have been made, or advances accomplished, have been against odds. Vaccination, dissection, vivisection, sanitation have been fought sturdily inch by inch. What benefits we have conferred on mankind have been mostly by force. Then we got the glory, and they kept the merits. We owe the world nothing, or next to nothing. It owes us much. Let us square the books and donate the past, but demand the cash system hereafter, sell our merits for what they are worth, and teach people not to toy with us, not to treat us as slaves, but give us an equal footing with others, and expect to pay for the mental and remedial wares with which our warehouses are stocked.

SELECTIONS.

Diarrhea in Infants.

A LECTURE BY WM. T. PLANT, M. D.,

Professor of Diseases of Children, Syracuse University, New York.

GENTLEMEN: At our last interview* we were engaged with the subject of infantile diarrhea. I described to you with some detail the features of two forms, simple and inflammatory. To-day we will continue and complete the subject.

In some cases the inflammation is pretty much confined to the lowermost division of the large intestine. When so situated it causes some symptoms that are not found with the other forms; hence a special name, dysentery—pain in the intestines.

The prominent symptoms of dysentery are pain in the lower bowels, straining at stool, the passing of mucus with blood, and more or less fever. The pain is apt to be acute, cutting. The tenesmus is very troublesome. There is a constant desire to empty the bowel, but the desire is never satisfied. In some cases there is so much straining that a portion of intestine protrudes through and outside the anus—a prolapse of the rectum. In this dysenteric

* For lecture here referred to see Medical News, Vol. xii., No. 11, page 126.

form of bowel-trouble the stool consist of glairy mucus with blood and a little fecal matter. The constitutional symptoms are well marked. There is sharp fever; the temperature is raised; the cheeks are flushed; the thirst is great, and the face shows suffering.

In early infancy dysentery is rare. In childhood it is rather frequent. Now and then it occurs as an epidemic. It is not so often the result of dietetic imprudence as the other forms of diarrhea. Perhaps its most frequent cause is sudden chilling of the surface. Boys often get it by throwing themselves on the damp ground when heated by exercise, or by going with wet and cold feet. It is much less frequent in girls. Other occasional causes are worms and fecal accumulations in the rectum.

There is one other form of intestinal flux occasionally met with during the hot months, called from the violence of its symptoms cholera infantum. Its causes are impure air, hot weather, and improper feeding. It is much more frequent in infants under two years than in older children. The chief symptoms are frequent liquid evacuations, vomiting, thirst, increased temperature, rapid waste and great debility. The discharges at first may contain some fecal matter, but they soon become liquid and very copious. Often they are so watery as to be wholly absorbed by the napkins, leaving hardly a stain. They have a peculiar musty odor that has a great attraction for flies. Vomiting appears early, if not at the beginning, and usually persists to the end. The thirst is urgent, and the infant is constantly reaching after and crying for water, which, if given in any considerable quantity, is returned almost as soon as taken. I have seen cases in which a moderate drink of any liquid seemed to excite so rapid a peristalsis that it was passed swiftly through the intestine with loud gurgling, and forcibly ejected from the rectum. The urine is apt to be suppressed because the fluid escapes from the body through another channel. The temperature is extraordinarily high in this disease—from 103° upward; sometimes before death the mercury mounts to 106° , or even 108° . In no other disease are there such sudden and striking changes in the aspect of an infant. The fluids are abstracted from the tissues so rapidly that a few hours may suffice to render an infant almost unrecognizable by its friends. There can be little doubt that

the cause of cholera infantum is a most violent gastro-intestinal inflammation.

This is a very fatal malady. Not that all die, but many, the most, do. It may strike suddenly in the midst of health and march without pause to a fatal ending. It may also occur as a sequel of one of the other forms of diarrhea. Infants previously healthy and strong frequently succumb to it in one or two days. The name ought only to be applied to cases of this violent sort, for only these bear a resemblance to true cholera. It should not be used in connection with ordinary cases of summer diarrhea. In this city you will frequently hear a trivial and salutary looseness of the bowels spoken of as cholera infantum. I hope you will guard yourselves against such a misuse of terms.

TREATMENT.

In all forms of diarrhea the diet and the drink should receive attention. We are prone to forget the dependence of the egesta upon the ingesta. I doubt if the fact is sufficiently recognized that in very many cases of diarrhea the trouble is primarily at the stomach. The food, disproportioned in quality or quantity to the ability of that viscus, is but partially elaborated. It undergoes fermentation instead of proper digestion. As a consequence, an acrid chyme passes into the intestine, irritating its mucous membrane and increasing peristaltic action. Yet there is no dietetic rule that can be applied to all cases. Fresh milk from the cow agrees with most infants after weaning. I have also used condensed milk (Borden's) in the proportion of one part to ten or fifteen of water, and have been satisfied with it. If hard curds are vomited there is probably an over-acid condition of the stomach. This may be corrected by the addition of lime water, a quarter or a third of the bulk; or bicarbonate of soda, one to three grams (fifteen to forty-five grains) to the pint of milk. If the stools are flecked with numerous bits of undigested casein I take that to be an evidence that the stomach has lagged in its work, and I treat the milk with saccharated pepsin, about one gram (fifteen grains) to the half pint. For a most obstinate case under my care the last summer, I added both soda and pepsin to the milk with the apparent effect of stopping the vomiting and lessening the diarrhea. There are some cases, however, in which milk, modify it as you may, offends the stomach

and increases diarrhea. In such you will do well to feed the child for a time with animal broths—veal, lamb, or beef—or with one of the artificial foods, as Mellin's, Horlick's, Ridge's, or Nestle's. Do not allow too much of any of these at one time. I think it important that you should remember not to make the liquid food serve entirely as drink.

In no disease is the desire or the need of water so urgent as in a profuse diarrhea, and it is harmful as well as cruel to withhold it as is so often done. You may give cold water in all forms of diarrhea. If the stomach is very irritable you may be able to give but a few drops at once, but these may be often repeated.

Bear in mind that a simple diarrhea in the child, as in the adult, is often a result of over-feeding, and is to be regarded as nature's way of ridding the system of matters that could only do harm by remaining. In such cases a restricted diet or abstinence from food for a day may effect a cure without medicine.

Sometimes you will find it of advantage to give an efficient laxative at the outset to carry away any peccant matter which the bowel may contain. For this purpose I know of nothing better than castor-oil. Its tendency to cause griping pain may be obviated by giving with it or after it a little paregoric or laudanum—from twenty to forty drops of the former, from one-half to one drop of the latter. A combination of equal parts of rhubarb and carbonate of magnesia answers the same purpose. If there appears to be a deficiency of the biliary secretion, if the skin is sallow and the tongue coated, you will do well to give one to two grains (0.06 to 0.12 gram) of hydragryum cum creta, and repeat it after some hours.

I think I have before alluded to the fact that superacidity characterizes most cases of infantile diarrhea. For this reason alkalies hold a prominent place in their treatment. Something like the following laxative and corrective has been long in use:

| | | | | |
|---|-------------------|---|-------------------|----------------------|
| R | Pulv. rhei., | . | . | aa gr. xv; 1.00 Gm.; |
| | Sodæ bicarb., | . | . | |
| | Syrupi simp., | . | ℥ $\frac{2}{3}$; | 20.00 fl.Gm.; |
| | Aquæ. menth. pip. | . | ℥jss; | 45.00 fl.Gm. |

Misce. Signa. A teaspoonful or more.

Do not carry the laxative treatment too far, especially

with young infants, in very warm weather. In fact, I seldom prescribe cathartics in midsummer for very young patients, but resort to checking measures immediately. For this purpose you will find the chalk mixture, with the addition of paregoric or laudanum, efficient. I have used the following with much satisfaction in cases where the stomach digestion appeared to be at fault:

| | | | |
|----|-------------------|--------------|---------------|
| R̄ | Pepsine sach., | . gr. xxx; | 2.00 Gm.; |
| | Bismuthi subnit., | . ʒjss; | 6.00 Gm.; |
| | Tinct. opii., | . gtt. xxiv; | 0.70 fl.Gm.; |
| | Syrupi simp., | . ʒj½; | 40.00 fl.Gm.; |
| | Elix. simp., | . ʒj; | 30.00 fl.Gm.; |
| | Aquæ., | . ʒij; | 60.00 fl.Gm.; |

M. Teaspoonful every three or four hours if awake.

I often use in children's diarrhea a combination of bismuth with Dover's powder, about as follows:

| | | | |
|----|------------------------|--------------|--------------|
| R̄ | Ipecac. et opii pulv., | . gr. vijss; | 0.50 Gm. |
| | Bismuth subnit., | . gr. xlv; | 3.00 Gm.; |
| | Aquæ., | . ʒij; | 60.00 fl.Gm. |

Signa. Stir and give a teaspoonful once in three to four hours if not asleep.

If desirable, you may increase the astringency of these formulæ by the addition to each dose of a few drops of tincture of kino or catechu or extract of logwood. The latter is the most agreeable of vegetable astringents, although its efficiency as a coloring agent renders it rather unpopular in the nursery.

If through these simple and rational means the looseness is not soon checked, it is probably because it is complicated with inflammation in some part of the intestine. In that case the trouble is more serious and requires assiduous looking after.

In the treatment of persistent diarrhea with inflammation, strive, if possible, to remove the cause or to escape from it. For instance, if the infant is living in this city, and is hand-fed with milk from the carts, send it to the hills south of us, and keep it on a farm till October. It would be an immense saving of infant life if we could treat all our cases of persistent summer-complaint in this way. But unfortunately the disease prevails most among the poor, who can not afford the expense of removal. We must take them as we find them, and do what we can when we can not do what we would. Secure the best

ventilation possible. If living in a damp basement, insist on a change of quarters. The remedies are much the same as those recommended for the milder form. Opium is by far the most valuable. It checks the action of the bowels; it promotes the action of the skin; it relieves pain; it secures rest, and checks the rapid waste. In some form it is an ingredient of nearly all our prescriptions for this kind of intestinal flux. The foregoing formulæ may be employed, or the following from the excellent work of Prof. J. Lewis Smith:

| | | | | |
|----------------|-------------------|---|-------|------------------------|
| R ^y | Tinct. opii, | . | . | gtt. xvj; 0.50 fl.Gm.; |
| | Bismuthi subnit., | . | 5 ij; | 8.00 Gm.; |
| | Misturæ cretæ., | . | 5 ij; | 60.00 fl.Gm. |

Signæ. A teaspoonful every three hours.

It often happens that the vomiting prevents successful medication by the mouth. We may then have recourse to the rectum. An enema of from one to three drops of laudanum for an infant of one year, in a teaspoonful of mucilage or hydrated starch, will usually be retained. Opiate suppositories answer the same purpose. For infants they may be made in urethral molds. From one-twenty-fourth to one-eighth of a grain of opium may be used for a child one year old. Do not use opiates by the mouth and rectum at the same time, and be ever mindful of the marked susceptibility of children to the power of this drug.

Next to the diarrhea the most troublesome symptom is vomiting. Various means are employed for checking it. Some of them I give you. The preparations before mentioned that contain bismuth are sometimes effectual. Lime water may be added to the food or given by itself. Calomel in minute doses (one-tenth of a grain), placed on the tongue, repeated once an hour, sometimes acts magically. Quarter or half-drop doses of wine of ipecac, or correspondingly small doses of nux vomica, will sometimes succeed, but very often they will fail. When the stomach is irritable the nourishment and the drink must be given in very small quantities, often repeated. When all ordinary diet has failed to remain upon the stomach, raw meat finely chopped and seasoned has been given with success.

In this form of diarrhea you will do well to begin early the use of stimulants. Do not wait till vitality is ex-

hausted before you avail yourselves of the sustaining influence of brandy, of Bourbon, or of champagne. Given with the food, stimulants seem to render the stomach more retentive.

The infant should be put once or twice daily into a warm bath. I am in the habit of advising it the last thing in the evening. Aside from its effect in equalizing the circulation, and so relieving intestinal hyperemia, it is an admirable measure for inducing a tranquil and restful sleep.

Outside applications are useful, but are not very easily kept on. I have used nothing better than a thin linseed poultice with which is incorporated a little mustard—say one part to twelve of flax-seed. This, covered with oil-silk, may be applied to the whole abdomen for some hours at a time.

In the treatment of the dysenteric form of bowel-trouble the same remedies and rules to a certain extent apply; but here medication per rectum is of peculiar value. Nothing relieves the pain and distressing tenesmus like opiate injections and suppositories given as before advised. The little patient should be kept at rest and recumbent, and should be exhorted to resist the longest possible its inclination to go to stool. Prolapse of the rectum is more apt to attend this form than any of the others. Beyond prompt reduction by gentle pressure no treatment is necessary. The protrusion becomes less as the tenesmus subsides and eventually ceases entirely.

In cholera infantum we must act quickly if our treatment is to avail anything. The remedies which were advised for the other forms are not inapplicable in this, but opium is our sheet-anchor. It must be given in decided doses, yet circumspectly, lest we induce a fatal narcotism. Prof. Smith gives a formula which I think well of in this connection:

| | | | |
|----|--------------------|-------------|-------------------|
| Ry | Tinct., opii., | . gtt. xvj; | 0.50 fl.Gm.; |
| | Spts. amm. aromat. | 3 ss—j; | 2.00—4.00 fl.Gm.; |
| | Bismuth. subnit., | 3 ij; | 8.00 Gm.; |
| | Syrupi simplicis., | } aa 3j | 30.00 fl.Gm. |
| | Aquæ, | | |

Misce. Signa. A teaspoonful once in two or three hours to a child one year old. If less, reduce the dose. Suspend if drowsy.

I have much faith in the efficacy of the warm bath often

repeated. Stimulants are necessary, and should be freely given from the outset. Champagne is one of the best in this form of diarrhea.

If cerebral symptoms—such as rolling of the head, clutching at the hair, and spells of hard crying, alternating with drowsiness—appear, do not think or say, as do the uninformed, that “the disease has gone to the head;” but look upon these phenomena as denoting cerebral anemia consequent upon the rapid drain from the blood, and treat accordingly.—*Louisville Medical News*.

Lectures.

BY J. M. DA COSTA, M. D.

Complications of Enteric Fever.

LECTURE I.

You have seen this patient once before. His condition, however, has altered somewhat. He is twenty-four years of age, and a bar-tender. You remember him as the man with very flushed face and pulmonary complications. I thought it would be useful for you to see the results of our treatment. Everything has been favorable. He was very ill when he was before you with characteristic typhoid fever tongue, diarrhea and an unusually diffused eruption, extending even as far as his thighs and arms.

The pulmonary complication revealed itself by the presence of considerable dullness over the lower part of the left lung. It was an instance of the pneumonia of typhoid fever. Our treatment consisted in the use of turpentine internally and externally, and in moderate doses of quinia. He took a considerable amount of stimulus. The existence of pneumonia in typhoid fever always calls for increased stimulation.

His temperature, to-day, is 99°; his pulse 82 to the minute, and his respiration 24. His face has lost a great deal of its flush; his tongue is much moister than it was, but is still partly dry.

Upon examining into the physical condition of his lungs I find now that the dullness has largely diminished, although the resonance over the lower part of the right lung is still relatively impaired. The inspiration is feeble

and the expiration prolonged. There are a number of ræles to be distinguished. Under these circumstances should our treatment be modified? He is taking ten minims of turpentine every three hours. Let it be continued. He is getting eight ounces of stimulus daily. I will cut down the amount to six ounces. The dose of quinia shall be reduced from twelve to eight grains daily. I will allow his diet to remain unchanged. I will have the resident paint the chest with iodine where the dullness still persists.

Here are two more cases which I wish you to see—fresh cases. I show them to you as partly typical cases of the disease in its acute stage, and partly because of some unusual symptoms which they present.

He had been sick for a week before admission. His illness began with orexia, insomnia, wakefulness, headache, fever and prostration. His bowels were constipated at first; since then they have been loose. He had a slight cough for several days before his admission.

Upon admission his face was flushed, his tongue coated, dry and tremulous. There were sordes on his teeth and tongue. He suffered from considerable headache and from pain in his legs. *Deafness was a marked symptom of the case.* There was dullness at the right apex.

This man was very ill when admitted, and is still so. Although there was nothing unusual about the case when it came in, on the day after his admission the temperature rose to $105\frac{6}{10}^{\circ}$. It has not, however, been so high since then. Most of the time it has ranged in the neighborhood of $103\text{--}103\frac{1}{2}^{\circ}$; occasionally, toward midnight, it has been as high as $104\frac{1}{2}^{\circ}$. The lung complication has persisted, although it has not been so marked as in the other cases which I have already shown you. There is congestion present in both lungs, but it is most marked in the right. When the patient puts out his tongue you see that it is heavily coated. Its tip is red. It was much drier when he was admitted. The pulse this morning is down to 82. The respirations are 24. The pulse has a far better volume. The first sound of the heart is remarkably absent, but I can hear a distinct second sound. The bowels are now moved three or four times in the course of the twenty-four hours. He still has some eruption on his chest and abdomen; there is also some on the thighs. There is none on the arm, only on the back and thighs. The lung

symptoms are, in the main, the same, though of lighter degree. There is some prolongation of the expiratory murmur, with a dry cough, and marked inflammation of the throat, with some slight whitish exudation.

This, then, to summarize, is a case of typhoid fever barely past its height. The temperature has been at times very high. *There is a sore throat present*, with some slight diphtheritic deposit.

This diphtheritic deposit is rare as a complication of typhoid fever. When it does occur it is generally noticeable at the height of the disease, and is not an early symptom. It begins with a diffused redness, soon followed by the disappearance of an exudation upon the fauces, palate and tonsils. Here the tonsils are simply injected, but there is a whitish exudation on the pharynx and fauces. You must all be very careful not to mistake this diphtheritic deposit for the sordes, which is invariably present on the throat and gums in typhoid fever.

The question now arises whether this is merely a form of thrush or whether it is the manifestation of a true diphtheritic exudation. I think it is a kind of half diphtheritic and half aphthous sore throat.

It is more than simply an aphthous sore throat; it is probably a species of diphtheria. How are we to treat it? This man is at present undergoing a kind of treatment very similar to that usually pursued in routine cases. He is taking ten minims of turpentine every three hours; twelve grains of quinia daily, and eight ounces of whisky. The throat symptoms have only been prominent the past two days.

How will these throat symptoms modify our treatment? I shall place the patient upon the use of the tincture of iron, giving fifteen drops every three hours. I will withdraw the turpentine, but keep up the quinia. This is an excellent mouth-wash for such cases:

| | |
|------------|------------|
| ℞ Alum. | |
| Borax, | aa ʒss. |
| Water, | f. ʒss. |
| Glycerine, | f. ʒss. M. |

Signe. To be used freely as a mouth-wash.

If this solution is too strong it must be diluted. At the same time that we are using this we shall keep a light poultice, with a little mustard on it, round the patient's neck.

Two Cases of Typhoid.

LECTURE II.

The next case to which I shall call your attention is the following: An organ-grinder by occupation. He speaks English very imperfectly. He had the usual prodromes of typhoid fever. He was admitted prior to the development of the eruption, but a day or two later we discovered some spots, in spite of the man's swarthy skin.

The eruption, to-day, is very marked; it has come out in crops. The fever process ran its course rapidly; it did not pass beyond the usual three weeks. The man is now convalescent; his pulse is 70, and his temperature $98.1-10^{\circ}$.

The only point in particular in connection with the case to which I desire to call your attention, is that an examination of the temperature chart shows us that the temperature at times has been lower than usual. It was $97\frac{1}{2}^{\circ}$ when his convalescence began. This subnormal temperature sometimes occurs at the termination of the disease. It tells us that the fever process is over, but warns us that we must not withdraw the stimulus. In these cases we generally find great debility present after the subsidence of the acute stage. Convalescence is slow, and the first sound of the heart remains feeble for a long time.

The proper treatment of such slow discoveries is by stimulus and nourishment. This man is taking one drachm of the elixir of iron, strychnia and quinia four times a day.

This is a patient who has been prostrated by typhoid fever. I do not know that the case was marked by anything peculiar in its early stages, except that it was, perhaps, one of more than usual severity. The temperature was as high as 105° at times, and there was a great deal of muttering delirium present. No doubt the case would have been regarded as one of more than ordinary severity; there was a little more diarrhea than customary during the first two weeks.

On the 28th of December convalescence seemed to be well established, the temperature being as low as 99° . On January 1st, the temperature was $97\frac{1}{2}^{\circ}$. Impressed by these signs of rapidly returning health, we began to allow the patient a more liberal diet. Constipation took the place of the diarrhea, so that we had to interfere occa-

sionally by mild means so as to produce a mild action of the bowels.

On January 14th, and with but a slight increase in the temperature at first, the patient began to complain of stiffness and swelling at the angle of the left lower jaw. Examination showed that the spot was stiff, swollen, red and painful. The stiffness and swelling increased in spite of the local application of iodine. Thirty-six hours after these symptoms were first noticed the fever process began to increase, the temperature record making a little over 100°. It never ran much higher than this. A few days later it again increased, until it is now about that of the first convalescence—98°.

The swelling has persisted ever since the 12th. For a few days it seemed to be getting better, but is just as big as ever again. There is a great hardness and tension of the parotid gland and of the surrounding parts. The tension extends upward some distance into the cheek. The patient can not open his mouth or swallow without giving rise to a considerable amount of pain. The gland lower down the neck and the submaxillary gland are not swollen, the parotid gland and the surrounding tissues being the only parts implicated.

This condition of things is so rare that Trousseau and Chomel have only put one case each upon record. Murchison, in all his enormous experience with typhoid fever, only found six cases, and I have only met with some two or three.

As I have already hinted to you, this case is one of parotid swelling as a complication of enteric fever.

How does it happen? What is its meaning? How does its occurrence modify our prognosis? How shall I treat this complication? You no doubt wish me to answer all these questions for you.

Before discussing these points, however, I may say that this complication, although but rarely met with in typhoid fever, is not by any means an infrequent complication of typhus.

In this very hospital, some ten years ago, there was a sort of epidemic of typhus fever cases brought into the wards, and during this epidemic I met with at least four cases of parotid swelling. Moreover, I have seen it elsewhere in other cases of typhus fever, and so I am quite familiar with the complication as occurring in typhus.

Parotid swelling does not differ materially as occurring in these two fevers, except that the tendency to suppuration is greater in typhoid fever.

At what stage of typhoid fever does it occur? Generally we find it at the end of the natural period of the disease, or it may happen, as here, just after convalescence has set in. I have never met with it at the height of the fever process.

Suppuration is one of the results of this complication. Occasionally the swelling subsides slowly, or else it grows more and more marked, and thus indicates such profound blood-poisoning that the patient soon succumbs.

Our treatment consisted at first, as I have already indicated to you, in the local application of iodine. This did not seem to do any good. We then stopped the iodine and applied ice in bladders steadily to the spot. This relieved the tension, heat and swelling. Indeed, for a time, the swelling seemed to be disappearing, so that a few days ago it looked as if the complication had entirely yielded to the ice; but, unfortunately, the swelling has come back again in full force. However, I shall order the ice treatment to be steadily kept up, hoping in this way to prevent suppuration. If suppuration takes place in spite of the ice, we shall stop the ice at once and favor suppuration by warm poultices, and by an early incision let out the pus.

In parotid swelling in typhus fever I have tried all kinds of treatment—nitrate of silver, blistering and iodine. None of these methods, except, perhaps, the blistering, were attended with any success.

I shall continue the ice in this case for a day or so, and then apply a small blister. I shall also pay careful attention to the state of the system. With this latter end in view I shall give twenty drops of tincture of the chloride of iron every three hours, and the patient shall take twelve grains of quinine and four ounces of whisky every day.

If I should find any reason to change this treatment, I will resort to a course of Lugol's solution of the iodide of potassium internally as alteratives.

The treatment by the chloride of iron I consider to be the best. I do not think we shall have any suppuration here; I think that the ice and blister will prevent it.—

Western Medical Reporter.

New York Academy of Medicine.

Stated Meeting, Oct. 20, 1881.

FORDYCE BARKER, M. D., LL.D., PRESIDENT, IN THE CHAIR.

THE President acknowledged the receipt of a volume published by Dr. Declat in 1865, in which was set forth a new therapeutical use for carbolic acid. In a paper read by Dr. Sims, at the last stated meeting of the Academy, allusion was made to certain advantages which were to be gained by prompt operations within the peritoneal cavity, and they were largely the outgrowth of the knowledge which the profession had derived of antiseptic measures embraced under the general term Listerism, a word now in common use. The volume was accompanied by a letter which he had received from Dr. Declat, containing a reclamation, with considerable evidence in support of the assertion that he antedated in priority the observations and publications of Lister by several years. The book and the letter would be placed in the archives of the Academy, where they could be consulted, thus affording opportunity to study Dr. Declat's claims, and each could then settle the question in his own mind.

The following is an abstract of Dr. Declat's letter. It was addressed to the President of the New York Academy of Medicine, and was written to establish two points:

First.—That he claimed the priority of the so-called antiseptic method.

Second.—That the system of Lister was both imperfect and incomplete.

"His first publication, in 1865, which he sent to Sir James Simpson, of Edinburgh, was the starting-point of the first application of carbolic acid by Mr. Lister in that city in 1867, two years later, and *six* years after his public application of the remedy at the Hospital St. Jean de Dieu, in the presence and with the co-operation of Dr. Gras and Professor Maisonneuve, who took it upon himself to communicate it to Professor Simpson, who accused Lister of plagiarism in claiming that discovery; and Dr. Sanson, the authorized translator of Lister's works, admits my claim."

Dr. Declat presented to the Academy his book written in 1865, and also referred to an extract in Pasteur's work

on beer-fermentation (p. 44), where that eminent scientist clearly defined his rights to priority, after having alluded to Mr. Lister. The extract says: "Dr. Declat has created a new system of medicine founded on the employment of one of the best-known antiseptics (carbolic acid), namely, that transmissible diseases are each the product of a special ferment, and that medical and surgical therapeutics must try and prevent the penetration of ferments coming from without into the liquids of the economy, or, if they have penetrated, to find antiferments to destroy them without diminishing the vitality of the histological element of liquid and tissues."

Dr. Declat also referred to the *Bulletin Officiel des Comptes Rendus de l'Academie des Sciences de Paris*, du 11 mars, 1878, in which Professor Sedillot saw fit, a majority of the Fellows being present, to establish the priority of his claim. Dr. Declat continued: "I have said that the Lister method is imperfect in two ways: First, because in most wounds and operations we should put aside the carbolic spray, with its many inconveniences, and replace it by a direct cauterization of the tissues, operated upon by means of a solution of about equal parts of carbolic acid and alcohol, followed by a carbolic dressing. The Lister method is incomplete, because it does not realize the second part of the antiseptic therapeutics, as it only partially prevents the penetration of ferments from the exterior. Neither Mr. Lister nor Dr. Sims (I think) has done anything to destroy them once they have penetrated into the liquids of the economy, and there is septicæmia or pyæmia; but this addition to the antiseptic treatment is the more important since it applies both to medicine and surgery. It consists in introducing with impunity into poisoned liquids, tissues, or organs, antiferments and chemically pure *acide phenique*, *sulfo-phenique*, *iodo-phenique*, and *acide salicylique* by means of draughts (enemata), and, above all, by hypodermic injections in large doses. The greater part of the accidents that have happened in surgery can be traced to the presence of volatile bodies, *acide crezilique*, *l'acide rosacique*, and *rasoline*, which are present even when the carbolic acid is in crystals. In the hands of the followers of Lister a patient stricken with septicæmia is not curable; while the patient has many chances of recovery by the internal antiseptic treatment."

Dr. A. C. Post exhibited plaster-casts illustrating the condition of the hands before and after the operations for the relief of the deformities, in a case which he had already reported to the New York Surgical Society.

Dr. Passmore, of Brighton, England, was introduced to the Academy, and invited to a seat upon the platform.

LESIONS OF THE ORBITAL WALLS AND CONTENTS DUE TO
SYPHILIS.

Dr. C. S. Bull read a paper on the above subject, in which he restricted his remarks to the study of the lesions of the bones, and the adipose and connective tissues of the orbit. These lesions were not a common, though by no means a rare manifestation of syphilis. The lesions considered were osteitis, periostitis—singly and combined, periostosis, hyperostosis, exostosis—of which two or more might coexist, caries and necrosis involving perhaps only a small portion, and possibly the entire thickness of the bone invaded. According to most authorities those lesions belonged to the late manifestations of the disease; but Dr. Bull thought that they might occur earlier than had usually been supposed. They were more common in hereditary than in acquired syphilis, and in warm than in cold latitudes. The earlier periostitis was much less indolent than that which appeared later, and was never followed by exostosis or hyperostosis.

The symptomatology of these different lesions was illustrated by cases, and the treatment of each variety was considered in detail. Mercury and iodide of potassium were the drugs chiefly used in the medicinal treatment, and in some cases it had been found necessary to reach very large doses of iodide of potassium before the symptoms of the disease began to yield.

Dr. J. W. S. Gouley complimented the author of the paper upon the value and completeness of his contribution, with reference to both the pathology and symptomatology of syphilitic lesions of the orbit, and then proceeded to speak of treatment, both medical and surgical.

With reference to treating the early manifestations of syphilis with free doses of mercury, and later with full doses of iodide of potassium, advocated by Dr. Bull, he believed that a great deal more harm than good followed the indiscriminate use of mercurials and iodide of potassium. He thought it was unnecessary to touch the gums,

and, especially, the patient should not in the least be ptyalized. Mercury should be given in sufficient quantity to produce certain effects without producing ptyalism. In none of his syphilitic patients did he give more than minnte doses, by the mouth, of the corrosive chloride or the biniodide of mercury, accompanied by inunction, and he never expected to see any symptoms of ptyalism. He often began with one-fiftieth of a grain of the corrosive chloride, using, at the same time, inunction first upon one side of the body, and then the other, watching its effect closely, and suspending its use every month or every two months. He uses the iodide of potassium still more cautiously, for heroic doses may produce most alarming symptoms, and give rise to diseases which become absolutely incurable, such as sclerosis of the kidneys. He had known a number of cases in which death was caused by the administration of the iodide of potassium for months—for six months, beginning with a drachm daily, and gradually increasing the quantity until the patient took an ounce of the drug daily. Those were abuses which should cease, and which might be considered as malpractice.

A very distinguished English surgeon had passed to the other extreme, by saying that he could produce all needed results with five-grain doses. Dr. Gouley believed that such doses were too small. He thought that twenty grains, given three times a day, or fifteen grains four times daily, would accomplish all that was done in Dr. Bull's cases by the administration of two drachms or more daily.

With regard to surgical treatment, he would not be willing to undertake an operation upon any case of orbital necrosis until the patient had been kept under the influence of medicinal treatment for some time, and his general condition improved as much as possible, except in certain cases where abscesses existed. In those cases he would give free vent to the pus, remove loose pieces of bone, and then put the patient upon constitutional treatment.

With reference to exostoses, which were usually late symptoms, there was no doubt concerning the propriety of their removal by surgical means.

Dr. Knapp said that he had no great experience on the subject of Dr. Bull's instructive paper, yet a few cases which he recollected might be worth relating. He had

seen, several times, *acute circumscribed periorbital swelling* in syphilitic persons, who recovered quickly under mercurial treatment.

He had in mind a case of *chronic periostitis* of the inner part of the superior orbital margin, which for two years had occasionally formed an abscess, opened and discharged a puriform liquid. The syphilitic origin was not clear, yet the patient was cured by iodide of potassium.

Another case had greatly excited his interest. It was that of a man over fifty years of age, who had contracted syphilis when about twenty. Several years later the region of his brows began to swell, and in the course of years, with repeated inflammatory aggravations, developed into a hard, uniform prominence—a true *hyperostosis*, constituting a marked deformity, upon which mercurials and iodides had no influence whatever.

Another case was still more vividly in his mind. A man had had a primary affection about fifteen years ago; then, in the course of years, different manifestations of unmistakable constitutional syphilis, among which, periostotic swelling of several bones. At last he had *diffuse periostitis of the orbital walls*, especially the upper—not very painful to the touch, but with intense, spontaneous pain. There was exophthalmus, but no lesion of the eye—in particular, no neuro-retinitis. Complete and permanent recovery was obtained by a course of mercurial treatment, chiefly inunction, for several months.

Dr. O. D. Pomeroy had recently had a case which illustrated one point in the subject. The initial lesion of syphilis occurred about six months before the development of an abscess just beneath the superciliary ridge, and extending into the roof of the orbit, without displacing the eyeball. The patient had abscesses in other regions, but otherwise the syphilitic symptoms were but few. He opened the abscess, found dead bone, placed the patient upon constitutional treatment, and recovery was exceedingly rapid.

With reference to the size of dose of different remedies, he gave the least amount possible to produce the desired effect. He regarded the $\frac{1}{24}$ of a grain of bichloride of mercury as a large dose. Intermittent inunction with mercurials he regarded as beneficial. His belief in the efficacy of the iodide of potassium was “extremely

shaky." Small doses, according to his observation, affected some patients in a marked manner.

With regard to etiology, he thought that injury, in many cases, excited the disease into virulent activity. In the treatment of diseases of the tear-duct he had frequently seen orbital lesions, and could corroborate Dr. Bull's statement that sequestra, as a rule, were absent in cases of necrosis in that region.

The President, with reference to excessive doses of iodide of potassium, was rather surprised at the strong statements made by Dr. Gouley, and yet he was well aware that very large doses of the drug were frequently given in the city of New York. He then referred to a case of ataxia due to syphilis, in which there was complete paraplegia, with paralysis of the bladder and rectum. To that patient he gave a drachm of the iodide of potassium three times daily, beginning with twenty-grain doses, and an entire cure had been effected.

In another case he was giving large doses, but should begin to diminish the quantity, in consequence of what he heard during the discussion.

Dr. Gouley had for ten years, and in accordance with a suggestion which he received from Dr. Meredith Clymer, been using the iodide of sodium instead of the iodide of potassium, believing that it was the potassium, and not the iodine, which was the toxic agent. He had found that large doses of iodide of sodium were much better borne than were equally large doses of iodide of potassium; and besides, the sodic salts in the same quantity had no tendency to produce sclerosis of the kidneys. He condemned the excessively large doses of iodide of potassium so frequently given, and believed that the physician who gave an ounce of the drug daily, and continued it for weeks and months, was guilty of malpractice. The syphilis might be cured, but the patient very likely would be killed by the chronic interstitial nephritis developed by this excessive and prolonged administration of the iodide of potassium.

As was well known, there were patients who could not tolerate the minutest doses of iodide of potassium, while there were others who required very large doses. In his belief the latter were more likely to be harmed by the drug, for their stomachs tolerated the large doses, but in the end their kidneys suffered. He had had patients who

could not bear a single grain at a dose, and others who required very large doses, but the latter had always given him great anxiety. He had known a most violent hæmaturia to follow the use of forty grains of the iodide of potassium three times a day, and continued for two weeks. The symptom disappeared within a few days after discontinuing the drug, and afterward he was careful to give smaller doses.

Dr. A. W. Stein believed that it was impossible to treat every case of syphilis without touching the gums, however great the precaution taken might be. Of course, no physician would administer a drug to the production of its physiological effects when its therapeutical effects could be produced by much smaller doses. Salivation should be avoided if possible; but some patients were so susceptible to the influence of mercury that even the smallest doses would affect their gums. Further than that, he had treated cases at the Charity Hospital in which the secondary symptoms did not yield until the gums were slightly touched, and he had not seen any harm follow such a manifestation of the physiological effect of the drug.

With reference to the iodide of potassium, his practice was to begin with ten-grain doses. He had seen patients who could not bear five-grain or even three-grain doses; but there were those who could bear much larger doses than ten grains, and whose symptoms would not yield until the larger doses were reached. In cases of rapidly progressing osteitis and periostitis, or other grave manifestations of syphilis, he was not disposed to trifle with the disease by giving small doses of the iodide of potassium, especially when many cases were seen in which it was only when drachm doses were reached that the symptoms began to yield, and then the recovery was rapid. He did not doubt that the prolonged use of large doses might do damage to some of the organs of the body; but it was unnecessary either to resort to them in all cases, or to continue them for a great length of time. Perhaps we had gone to the extreme in using large doses, but he hoped that we should not fall back to the old method of using insufficient doses.

Dr. E. H. M. Sell referred to a case in which iodide of potassium invariably aggravated the symptoms. Iodide of sodium was substituted, and, although administered in

only five-grain doses three times daily, the gummata and other manifestations of syphilis rapidly disappeared. He disapproved of the use of excessive doses of the iodide of potassium.

Dr. Bull, in closing the discussion, said that, in the first place, he had no intention of starting a therapeutical discussion; and secondly, that he did not wish to be understood as underestimating the danger attending the administration of too much mercury and iodide of potassium. For many years he had not produced any marked symptoms of salivation. Nor, on the other hand, should he consider himself guilty of malpractice if he should administer half an ounce of the iodide of potassium three times a day, if such doses were necessary. There were cases which would not yield to small doses, and what had been called excessive doses were necessary to effect a cure.

Granted the existence of sclerosed kidneys, associated with a corresponding change in the liver, *post-mortem* in a syphilitic subject, he believed that the renal change and the condition of the liver were due to the syphilis rather than to the potassium iodide.

The Academy then adjourned.

Seventh Annual Meeting of the Tri-State Medical Society of Kentucky, Indiana and Illinois.

Held in St. Louis, October 25, 26 and 27, 1881.

THERE were about two hundred members present. Three sessions a day were held, and there were no excursions or banquets. The usual welcome address of the Mayor was also omitted, on account of lack of time. Dr. H. C. Fairbrother, on behalf of the Committee of Arrangements, said that these changes from the usual programme of medical society meetings had been made after careful consideration. The delegates were there for a special purpose, and no time should be wasted in complimentary speeches. They came asking and receiving no favors. They were welcome to that for which they paid, and no more.

Dr. Wm. Porter, on behalf of the Committee on Programme spoke in the same vein. The usual banquet had

been left out because it was not the purpose of the gentlemen assembled to spend their time in eating and drinking, but for the purpose of elevating and extending knowledge in the profession they had chosen.

The Society then listened to the

ADDRESS OF THE PRESIDENT.

He spoke of the high aims and duties of the medical profession, and of the help and advantage which societies were in carrying these out. He referred to the Tri-State Society as an illustration, and briefly traced its history and growth. He then introduced the subject of the dangers to society from syphilis, and the method of preventing or lessening these. He offered no positive plan for such prevention, but made a number of suggestions, and finally asked that the subject be discussed by the Society.

At a subsequent session there was a debate upon this address which was quite active, but which resulted in nothing worthy of note.

An excellent paper was read by Dr. F. D. Washburne, of Hillsboro, Ill., on "Medical Orthodoxy." The conclusion was that the only orthodoxy worthy of the acceptance of physicians is the broad-minded acceptance of the good, whatever its source.

A paper on "Pædiatric Practice" was read by Dr. G. Wheeler Jones, of Danville, Ill.

On the second day a paper was read by Dr. Hebar Roberts, of Carbondale, Ill., on the "Use and Abuse of Splints in Fractures above the Elbow." An abuse which the reader enlarged upon, and considered dangerous, was that of making the splint too tight. This was done sometimes in deference to the opinion of the patient, rather than the judgment of the surgeon. In the discussion, the question of how much complete rest ought to be given the broken limb was raised. Some remarks on "Treatment of Fractures of the Radius by the Rubber Bandage" were made by Dr. E. Brock, of St. Louis; and quite an elaborate monograph on "The Treatment of Extrophy of the Bladder" was presented by Dr. Prince, of Jacksonville, Ill.

Dr. J. E. Link, of Terre Haute, Ind., read an article on the "Reformation of Bone," in which he claimed to have been the first to have announced the possibility of such

reformation after exsection. This he did for twenty years in Chicago, and his views were at that time ridiculed.

ABOLITION OF THE ANNUAL VOLUME OF TRANSACTIONS.

Dr. Dickinson, from the Committee on Publication, reported that the committee's conviction was that the cost of publication of the proceedings in a separate volume would be too expensive, and, besides, such a volume would have too small a circulation. Therefore, they believed in conferring with the authors of the papers, and learning from them the medical journal in which they preferred to publish such papers.

After some discussion, a motion was made and carried, that the matter be left discretionary with the committee, provided that the several authors of papers indicate, before going home, their preference, if they entertain any, in regard to the journal in which they would wish them published.

Dr. B. M. Griffin, of Springfield, Ill., read a paper entitled "Headache: Cause and Cure," which covered the subject very completely. He called special attention to headache from eye-strain. In the subsequent discussion, the efficiency of galvanism in treatment was referred to. In the intense headache of cerebral or cerebella disease, Dr. Hughes had found saturating the head with sulphuric ether very satisfactory.

Dr. C. H. Hughes, of St. Louis, read a paper on "Insanity in its Relation to Law." He criticised the present status of the laws regarding insanity, and spoke of the great injustice which legal ignorance had wrought. The chief aim of his paper, however, was to plead for statutory enactments

FORBIDDING MARRIAGE

among those likely to become insane, epileptic, etc.

"There are," he said, "methods humane, and they ought to be made lawful, by which insanity may be abridged, and the great horde of neuropaths that follow, like sick and wounded stragglers of an army, in the march of civilization; methods that would leave no stain of blood on the judiciary, no foul blot of murder on the State's escutcheon.

"The neuropathic diathesis, the insane constitution that breeds its like, and burdens the State with hereditary imbecility, idiocy, insanity, deaf-mutism, and the lesser de-

grees of mental defect, must be made the subject of statutory enactment and enforced law. Sentimentality must yield to fact; the teachings of nature must be heeded and as sternly enforced as her own unerring edicts are. Why should the confirmed drunkard be permitted to beget a race of imbeciles, epileptics, idiots, or criminals? Why should the life-long criminal and pauper be allowed to go on reproducing his defective kind, the lunatic likewise, and all the mentally maimed of whatever degree, especially when by forfeiture of liberty they fall under proper custody of the law?"

The case of Guiteau was discussed, but no judgment pronounced, the speaker concluding with, "Time will tell."

REFLEX CONTRACTION OF CORPORA CAVERNOSA

was the title of a paper by Dr. J. T. Hodgen, of St. Louis. He stated that the cases described in it formed addenda to those described in a paper read by him before the Missouri State Medical Association in 1876. They presented peculiar features, which he had not recognized in any other reported cases.

Dr. Ford thought the cases described by Dr. Hodgen identical in symptoms with those mentioned by Van Buren. But Dr. Hodgen had excelled the latter in giving a correct rationale. He himself had a case of the kind in hand.

Dr. A. B. Bernays presented another case. He mentioned that he had sent the man to a specialist, who dosed him with iron, quinine and strychnine, charged him \$100, turned him loose, and did not cure him. Then Dr. Bernays performed a radical operation for varicocele, and his patient was cured.

Dr. A. G. Williams read a short paper on "Congenital Ptoxis," with a report of a case.

The Secretary read a paper from Dr. E. Walker, of Evansville, Ind., detailing his success in several cases which he had treated with

STATIC ELECTRICITY.

Dr. Hughes spoke very favorably of this form of electrical treatment.

Dr. H. Wardner, Superintendent of the Insane Asylum at Anna, Ill., read a paper on the

CARE OF THE INSANE,

illustrating, by the cases of the burned asylums at Anna and St. Joseph, where it became necessary to erect temporary dwellings, that the cottage system, with out-door recreation and work, is best for the chronic insane, and that these annexes ought to form a part of the asylum. Of course there should be a main building for the more violent.

Dr. Hughes made remarks on the system, which, he said, was practicable as an annex system; but as to dispensing with a main building, that was impracticable.

Dr. Stephens said that no insane asylum should be built higher than three stories. It ought to be spread out on the ground, not upward in the air. He would condemn the St. Louis Asylum, for the reason that there was not room or opportunity for the patients to exercise themselves, especially in out-door work.

Dr. Hughes again spoke on the question. He said that every State asylum should have at least one hundred and sixty acres of land. Two hundred and fifty is the limit of numbers that should be allowed in one building, under the care of one man. A superintendent must be able to recognize each, to keep his family history in memory, and all the minor details. When he loses sight of the personnel of any, he has more under his care than he should have. The objection to the cottage system comes in during inclement weather, when the chapel, lecture-room, exhibition hall, etc., can not be visited. Then the patients become restless and dissatisfied.

Dr. Johnson did not believe in the "palaces" erected for the insane, nor did he believe in gathering all the insane of a State at one point. For the victims of insanity, consequent upon masturbation, he would recommend castration and dismissal.

The elder Dr. Prince referred to the asylums in France. There are four thousand patients in the institution, but they are divided into many departments, under special physicians. As the superintendent is merely business manager, things move well enough.

At the concluding session, the President was instructed to inform the Committee of Arrangements for the next annual meeting that the innovation which had met with such success at this meeting shall be carried out, and

that no banqueting or other entertainment is desired, but that the meeting shall be strictly a business one.

The Society then adjourned, to meet again at Terre Haute, Ind., in September, 1882.

Management of the Shoulders in Labor.

JNO. MORRIS, M. D., of Baltimore, read a paper before the Baltimore Academy of Medicine, November 1, 1881, which we republish from the *Maryland Medical Journal*, November 15, 1881.

Lacerations of the perineum very frequently occur after the safe delivery of the head. This accident has recently occurred to two of my friends in a single week. In both these cases the head had been safely delivered with the forceps. In one of them, indeed, I had myself assisted the gentleman in attendance in delivering the shoulder presenting anteriorly, and yet the perineum was torn to a considerable extent in the delivery of the remaining shoulder. This looks like faulty midwifery, yet we are told by all the authorities on the subject that such instances are of very common occurrence. Any suggestion, therefore, which tends to obviate this unpleasant accident must, it seems to me, have a practical importance.

I have never met with a case of ruptured perineum in my own practice, which embraces two thousand midwifery cases. I do not know whether this is owing to good fortune or to the means which I invariably adopt in all cases which I am called to attend. Of course I have met with slight lacerations of the fourchette, but not of sufficient seriousness to require surgical interference.

In the "Transactions of the Medical and Chirurgical Faculty" for 1877 there will be found an article of the writer on the management of the perineum during labor. In that article I mention the various means necessary to be employed to protect its integrity. I there state that the proper plan is, before the head actually commences to impinge on the soft parts, to pass the finger round the whole surface of the perineum, inside, during the pain, and attenuate the tissues by drawing them downward and backward. This kind of *massage*, so to speak, is of great service in preparing the perineum for the severe strain it is about to undergo. When the pains are of a violently

forcible character it is necessary, of course, to guide the head and control its movements; but if the soft parts be properly prepared in the manner I have suggested, the perineum may be readily slipped under the chin, and the term of the labor thereby greatly shortened. I might now suggest, in addition, the proper management of the glottis and the extension of the left leg at this stage to produce relaxation of the sphincters. The abduction and flexion of the limbs are proper until the soft parts are completely stretched; then the extension of the left leg adds to the safety of the perineum by its relaxation and the increase in the degree of its inclination. These remarks apply more particularly to the management of the head, but they also have a bearing, as you will see hereafter, on the delivery of the shoulders.

A great rest usually takes place after the delivery of the head, particularly in primiparæ. The young obstetrician at this stage awaits anxiously for a renewal of the pains and sees with horror the face of the child becoming livid. Fearful for its safety, he immediately commences to pull on the head forcibly downward and backward. A sudden and violent pain is excited by his efforts; the sphincters contract and the shoulders are suddenly expelled, tearing the perineum in their rapid course. I have seen this occur in the Rotunda Hospital, Dublin, and several times in this city. It is not good practice at any time to draw upon the head. Among other *contretemps*, I have seen the head torn away from the body by futile efforts to deliver the shoulders in this manner. The proper plan after the delivery of the head is to rotate the shoulders in the reverse direction to that taken by the face, so as to bring them into the opposite oblique direction to that of the head. This rotation can be assisted by placing one hand upon the back of the neck and another upon the sternum as the shoulders are about to pass.

The better plan, however, and the one I always adopt in cases of primiparæ, is to deliver each shoulder separately. After the proper rotation of the shoulders, which should be done very gently, I pass two fingers up into the axilla of the arm presenting at the pubis, gently depressing the head in this movement. I then raise the head up toward the abdomen of the mother, and in a like manner deliver the remaining shoulder. The first shoulder should,

if possible, be delivered before the pains re-commence, after the delivery of the head. If I do not succeed with two fingers, I do not hesitate to pass the whole hand and draw down the arm. This is sometimes a little painful to the mother, but it invariably saves the perineum.

The great frequency of rupture of the perineum by the shoulders is due to the fact that they are too often disregarded in the management of the labor. The head being delivered without injury to the soft parts, the accoucheur thinks all difficulty is over; but this is a very great error. The shoulders form abrupt stumpy projections which are very apt to cut the attenuated parts if not properly watched and controlled. I have not, in what I have written, given any attention to the treatment of those cases in which the great size of the shoulders arrests the delivery before the head is born, for the reason that this branch of the subject has been ably treated by a French gentleman, M. Jacquemier, in an excellent paper published some years ago.

I have spoken of the proper management of the glottis as a means of saving the perineum, Tyler Smith is the only author who dwells sufficiently on the importance of this matter. The more outcry the woman makes at the terminal stage of labor—that is when the head and shoulders are about to pass—the better. The extreme dilatation of the glottis adds to the safety of the perineum by the relaxation of the sphincters which it produces. The woman, therefore, should be encouraged to cry out at this crisis. Her very distress seems to be the means devised to save her from future injury.

Unfortunately, in our times, it seems that more pains are taken to look for injuries to the perineum than to guard against them. The whole system of midwifery formerly taught in the schools, has been reversed by modern practice. The gynecologist appears to have taken the place in a great measure of the obstetrician. Women are now turned up and examined immediately after delivery in the search for lesions of the *genitalia*. I was greatly surprised at a meeting of the Obstetrical Section of the Medical and Chirurgical Faculty, last week, to discover that this practice is the unvarying rule of every member who was present.

Diabetes and Affections of the Pancreas.

IN 1877, Lancereaux found that certain forms of diabetes mellitus were associated with lesions of the pancreas. In these cases the malady began suddenly, ran a rapid course, with marked emaciation, polydipsia, polyphagia, and peculiar alvine dejections. Depierre found that various pancreatic lesions may be regarded as causes of this form of glycosuria. These lesions may be primary, or they may be secondary to the presence of calculi, or to the obstruction of the ducts by neoplasms. In these cases there seems to be a complete abrogation of the pancreatic function, and this abolition is indicated by a train of especial symptoms, constituting emaciating diabetes, a form very different from that of ordinary polyuria in its clinical aspect. In the latter there is an initial stage of apparent health which renders the progress of the disease slow and insidious; in pancreatic diabetes, however, in the midst of a general ill health, the first symptoms appear, consisting, usually, in grave intestinal manifestations, vertigo, vomiting, and icterus. These symptoms soon disappear, but leave the patient in a state of extreme debility, and are soon followed by the true symptoms of the disease, which latter may also arise without being preceded by those mentioned. These phenomena are polydipsia, polyphagia, polyuria, and antophagism; they reach their climax in a few weeks or months, and are very characteristic of this form of glycosuria. Generally there is diarrhea, and the urine contains a large amount of sugar. A frequent complication of this disease is pulmonary phthisis, together with an emaciation of such extreme rapidity that in a few months the patient loses successively his physical, intellectual, and virile powers. To this complete prostration and marasmus are added a hectic fever and symptoms of consumption. The disease generally runs its course in half a year, but it may extend over a year and a half to three years. The fatty, creamy fæces are met with in this malady, but it is to be remembered that they are also to be found in other pathological conditions of the organ. A point of diagnostic value, is the deficient digestion of nitrogenized substances, in cases of atrophy of the pancreas; shreds of undigested muscular tissue are found in the fæces of the patient. Besides the ordinary remedies for diabetes mellitis, pan-

creatine should be administered in these cases, in order to supply the deficiency of pancreatic juice, and thus aid digestion.—*Lo Sperimentale*, April, 1881.

MICROSCOPY.

DEATH OF M. NACHET, THE DISTINGUISHED FRENCH MAKER OF MICROSCOPES.—We are indebted to Mr. J. Mayall, Jr., London, Secretary of the *Royal Microscopical Society*, for the following information, furnished by him to the *London Times*:

“At the last meeting of the Royal Microscopical Society the death was announced of M. Camille Sebastien Nachet, the founder of the well-known firm of opticians, Nachet et Fils, of Paris. Early in life M. Nachet formed a friendship with Chevalier, the eminent optician, of Paris; he took great interest in the construction of optical instruments, particularly microscopes, on which Chevalier was especially engaged. At that date the improved manufacture of various kinds of flint glass by Guinaud (the predecessor of Pfeil), of Paris, gave a great impetus to the improvement of microscopes on the Continent, while engaging the attention of Brewster, Herschel, Goring, Dollond, Britchard, etc., in England. In 1834 M. Nachet undertook the direction of the microscope department in Chevalier's house, and during six years his skill and ingenuity largely contributed to the reputation of the house. In 1840 he commenced business on his own account, devoting himself particularly to the microscope and the specialties required in ophthalmic surgery. In 1842 he contributed a paper to the *Academie des Sciences* (Tome xiv.), describing the construction of achromatic lenses, in which curves of half a millimetre in radius were utilized. From that date he received encouragement from some of the leading scientific men of Europe, such as Amici, Arago, Milne-Edwards, and later on of Drs. Lebert, Robin, etc., for whom he executed numberless experimental devices. In 1843 he exhibited at the *Academie des Sciences* his *camera lucida*, which is still regarded as one of the best forms of that instrument. In 1844-6, his name figures in the *Comptes rendus* with numerous improvements in the microscope. In 1847 he brought out

his prism for oblique illumination, using the mirror in the axis—the forerunner of a large number of devices in which the total internal reflexion of glass surfaces has been utilized. His son then joined him in partnership, and the firm brought out in rapid succession binocular microscopes, dissecting microscopes, etc., which occupy a prominent place in the popular text-books. M. Nachet's liberality in carrying out the construction of experimental apparatus rendered his house a favorite resort of amateurs of the microscope. For some years past he had ceased to take active part in the business. His death took place in Paris on the 28th ult., in his 83d year."

GLEANINGS.

CONSTITUTIONAL SYPHILIS—SULPHATE OF COPPER.—MM. Aimi, Martin and Oberlin, physicians at St. Lazare, say: We have had the opportunity of treating, since September last, for different syphilitic symptoms, secondary and tertiary, fifteen patients who left the service cured; indeed, we have had twenty-two patients under treatment by this method. The results obtained by sulphate of copper are as satisfactory and as reliable as could be desired. On comparing, in a certain number of females afflicted with the same symptoms, almost alike in every particular, the action of the mercurial salts with that of the cupric salts, that of the latter has appeared to be superior in efficacy and rapidity in nearly every case.

Our patients have borne with the greatest ease this new method of treatment. In one case there commenced at the outset nausea of trifling significance, which did not, however, prevent tolerance from being established in three or four days.

In one case of severe syphilis (ecthyma and rupia, gummy tumors, etc.) in a woman belonging to the service of Dr. Bonrean, with whom the classical treatment had been powerless to modify her condition, the sulphate of copper, given for the first time February 29th last, has brought about rapid and complete cure.

In two or three of our patients we have observed, as a symptom of cupric saturation, a gingivitis similar to that which mercury produces, characterized by a symptom in

every way peculiar to it; that is, a *green line* running along the free border of the gums. We can add that this cupric gingivitis yields to treatment much more rapidly than is usual with mercurial gingivitis, and that in the two or three cases in which we have observed it, it has presented no threatening symptoms, nor is it ever accompanied with fungosities and softening of the mucous membrane.

The innocuousness of treatment seems to us to be easily explained by the small doses of sulphate of copper which we have employed. We have given it internally in solution of distilled water, in doses of four, eight and at most twelve milligrams daily, and externally by means of baths, medicated by twenty grams to the bath.—*L'Abeille Médicale*.—*Nashville Jour. M. and S., July.*

CONCEPTION WITHOUT INTRODUCTION OF THE PENIS.—Authentic cases of impregnation after contact of the male organ merely with external female genitals are so rare that the following history is of interest, if only in a medico-legal aspect. Sippel was called to assist in the delivery of a woman at full term, the husband stating that the genitals had completely grown together, so as to prevent the extrusion of the fœtus. On examination the head was found to protrude between the labia-majora during each pain, but was apparently entirely surrounded by a tense fleshy membrane, fully five millimetres in thickness. The waters had been very slowly evacuated; an opening, therefore, must necessarily have existed. After close search this aperture was found in the center of the membrane, and having the size of a lead-pencil. A blunt-pointed bistoury was now introduced, and the fleshy diaphragm divided by a crucial incision, after which the delivery of a living child was easily effected.

On examination, fourteen days post-partum, the site of the hymen was found occupied by four tough fleshy folds, as thick as the little finger, while the vagina and uterus were normal. The condition of the parts in this case was such as to entirely preclude the possibility of the penis having entered the vagina, as, indeed, both husband and wife stated was the case. Not knowing any better, and conception having followed, they had believed that this was the usual method of sexual intercourse. || No actual contact between the glans, penis and cervix having

occurred, it is evident that the spermatozoa must have penetrated from the vulva into the cavity of the uterus by their inherent active progression.—*Centralblatt für Gynaekologie*, April 30, 1881.

DIFFUSE INFLAMMATION OF THE EXTERNAL AUDITORY CANAL.
—Mr. E. C. Baber, M.B., of Brighton, in a paper on this subject (*British Med. Journal*), states that the disease must be distinguished from the circumscribed variety where small abscesses form in the meatus. In diffuse inflammation the walls of the meatus swell uniformly, so that often the smallest speculum can not be introduced. When the swelling subsides slightly a speculum well flattened at the inner end will show the tympanic membrane recognizable only by its position, the manubrium of the malleus and the light spot being hidden by the thickening, through inflammation of the epidermic layer of the membrane. Free secretion often exudes from the walls of the meatus without any perforation existing in the membrane. It is most important to diagnose this complication in healing this disease. For treatment leeching is useful, and care must be taken that the leeches are applied close to the ear. Incision of the inflamed tissues in the meatus is necessary when the case is severe, with danger of the adjacent bone being affected. An hourly injection of from five to ten drops of a solution of acetate of morphia (sixteen grains to the fluid ounce) greatly relieves the pain. In the chronic stage the surgeon should frequently cleanse the meatus with cotton wool. This is less irritating than the syringe. Glycerine of borax is the best lotion for injection.

THERAPEUTIC VALUE OF MECHANICAL NERVOUS IRRITATION.
—Cederschjold has found (*Schmidt's Fahrbrucher*, 1880) that compression of the nerve trunks with the finger tips is a therapeutic measure of much value. In scrivener's cramp, bronchial asthma, certain cases of locomotor ataxia, and tic douloureux, this compression has proven of much value. Compression of the brachial plexus may be produced by surrounding the arm with the fingers, in the axillary region. The sacral plexus may be affected in a similar manner by placing the patient in a semi-recumbent position, with his lower extremities drawn upward, and then pressing deeply into the pelvis. The solar plexus can be affected by pressure between the ensiform carti-

lage and the umbilicus. Cederschjold found that daily irritation of the sciatic and crural nerves was of marked benefit in the fulgorant pains in locomotor ataxia. Dr. McCraith had previously called attention to this means of treatment, and it is one capable of much extension in the treatment of many nervous affections; but it is an open question whether some of the benefits of massage do not depend on the same principle, as there appears to be but little doubt that some of the itinerant quacks who practice "rubbing" have at times markedly benefited certain cases of locomotor ataxia. Cederschjold has used it in certain cases of club foot, with advantage, by strongly irritating the nerve supplying the weakened muscle.

OPERATIVE FIXATION OF MOVABLE KIDNEYS.—Hahn has devised a new operation as a substitute for nephrectomy, in cases where this would be indicated simply by reason of excessive mobility of the kidney. The operation, which has been performed on two patients, may be briefly described as follows: The patient having been placed on the side opposite to that of the affected organ, an incision was carried along the outer border of the corresponding sacrolumbalis muscle from the lower border of the twelfth rib to the crest of the ilium, successively dividing the skin, the latissimus dorsi and the external layer of fascia enveloping the sacrolumbalis. The last named was then drawn toward the median line, after which the quadratus lumborum muscle, and the fibrous layer of the peritoneum were incised. It may be remembered here that, according to Arnold, the kidney is not entirely extraperitoneal, the anterior surface of the viscus being covered by the serous layer, and the posterior surface by the fibrous layer of the peritoneum, so that an incision through the latter does not necessarily involve an opening into the peritoneal cavity. Pressure was now exerted upon the anterior surface of the belly, so as to force the kidney into the wound, to which it was there attached by eight or ten catgut sutures, after which the whole wound was plugged with carbolized gauze. There being no reaction, the first dressing was only removed on the fifth day, the subsequent ones at corresponding intervals. In about four weeks the wounds were almost entirely healed, and the kidneys were found firmly fixed in their new location. In both cases, however, a slight degree of mo-

bility could still be detected at a somewhat later period. It would seem advisable, therefore, in future operations to partially strip off the adipose capsule from the posterior surface of the kidney and then to stitch this part of the capsule into the wound; it would also be preferable to fix the kidney as low down as possible, in order to give the organ a firm support, and to prevent any tension upon the seat of fixation during the assumption of the upright posture. Experience teaches that a dislocated kidney creates no disturbance, no matter how low it is placed, so long as it is firmly secured in its new location.—*Centralblatt für Chirurgie*, July 23, 1881.

ECHINOCOCCUS OF THE MAMMARY GLAND.—To the eighteen previously recorded cases of this affection, E. Fischer adds one recently observed by him at the Strasburg clinic. At the age of seventeen the patient first noticed a hard, painless lump, as large as a chestnut, in the right breast. For three years the swelling remained pretty much of the same size, but then it began to grow anew, and gave rise to pains in the diseased part, which radiated into the right axilla, along the shoulder and down the arm. On examination, a tumor as large as an apple was found in the upper and outward part of the mamma about four or five centimeters beyond the nipple. On extirpation, the growth was observed to contain about fifty scolices, some of them grouped in clusters upon a common pedicle. At the same time a second tumor, of the size of a hazel-nut, was removed from the subcutaneous adipose tissue in the posterior axillary line of the left side. Its presence had been noted simultaneously with that of the first tumor. It had grown rapidly until it had attained the size of a pigeon's egg, after which the size had become reduced to its present dimensions. It was held to be an obsolescent echinococcus sac. The immigration of the parasites took place probably about two months before the tumors were first discovered, as at this period the patient had, on several occasions, suffered from gastric disturbances.—*Centralblatt für Chirurgie*, April 30, 1881.

TREATMENT OF GONORRHEAL CONJUNCTIVITIS.—One of the main indications consists in removing the pressure which the tense lids exert upon the eyeball, for the occurrence of corneal ulceration and gangrene depends largely upon

the strangulation of vessels, thus produced. Some time ago Critchett relieved the tension and impending corneal danger in a very serious case by splitting the upper lid longitudinally and suturing the edges of the flaps thus formed to the skin of the brows. The procedure fulfills its object, but the risk seems imminent that shrinkage of the flaps may lead to subsequent deformity. The relief of the excessive tension has hence been attempted in another way by Fuchs (*Centralblatt für Augenheilkunde*, July, 1881). He splits the external commissure with the scissors, deepens the incision with a scalpel and prolongs it one centimetre beyond the external orbital rim dividing the soft tissues down to the bone. The upper lid can now be raised easily, the lower lid is kept everted by means of a loop suture until the swelling has subsided. During the operation hemorrhage occurs from the arteria zygomatico-orbitalis, which Fuchs thinks best to favor. The special advantage of the procedure apart from the relief of the pressure is the thorough drainage of the pus. Two cases are given with incipient corneal change, the recovery of which proves the value of the procedure.—*Chicago Medical Review*, October, 1881.

GONORRHOEA.—Dr. A. V. Barnes (*Medical Brief*) has found the following injection, used four or five times after urinating, very valuable in the sub-acute stage of gonorrhea:

| | | | |
|----------------|----------------|-----------|------------|
| R _y | Plumbi acetat, | | ℥j. |
| | Zinci acetat, | | ℥j. |
| | Morph. acetat, | | ℥j. |
| | Acid acetic, | | f. ℥ss. |
| | Aquæ, | | f. ℥vj. M. |

With this he gives, internally:

| | | | |
|----------------|----------------|-----------|-----------|
| R _y | Potas. bicarb, | | ℥iij. |
| | Tr. columb, | | f. ℥v. M. |
| | Aq. dest, | | f. ℥j. |

SIG.—Desert-spoonful four or five times daily.

FATAL RESULT FROM THE APPLICATION OF SAYRE'S JACKET.—The patient, a child, suffered from a considerable kyphosis at about the junction of the dorsal and cervical vertebræ. It was restless during the suspension; suddenly the breathing stopped. Immediately tracheotomy showed the trachea free down to its bifurcation, but consciousness could not be restored. The breathing was

stertorous, and the child died one and a half hours after the suspension. The autopsy revealed a very marked angular curvature of the spine, and a very large abscess reaching to the mediastinum.—*Proceedings of German Surgical Society; Deutsche Med. Wochenschrift; Maryland Medical Journal.*

DISCOVERY OF THE MICROCOCCUS OF SYPHILIS.—Dr. Aufrecht, of Magdeburg (*Centralblatt für die Med. Wiss.*, No. 13, 1881), announces that he has discovered in syphilitic condylomata a micrococcus, which may be recognized by the following characters: The single cocci are of rather coarse grain; they are generally of the form of diplococci, or two joined together, and the number of these is greater than of the single cocci. They are very seldom in threes. They are stained deeply by fuchsin. He has found them in six cases; but in one, where the condyloma was ulcerated, and in another, where it had been painted with corrosive sublimate, they were very scarce. He, therefore, excludes ulcerated condylomata, or those which have been treated specifically. To obtain the micrococci, the condyloma should be incised with a lancet, and the blood sponged away; then a drop of the serous fluid that follows should be collected on a cover-glass, which is put under a bell-jar for twenty-four hours, to dry. At the end of that time, a drop of a half per mille solution of fuchsin is placed on an object-glass, and the cover-glass is laid on it. The excess of fuchsin is wiped away after two or three minutes, and the object examined with Hartnack's 9A immersion lens. To preserve the object, he puts a little damar varnish around the edge of the cover-glass.—*London Med. Record, June 15th, 1881.*

TREATMENT OF HYDROCELE BY INJECTIONS OF CHLORIDE OF ZINC.—Impressed by the favorable results obtained in the treatment of sebaceous cysts with injections of chloride of zinc, Borck employed this procedure in a case of hydrocele of the spermatic cord, which he had previously tapped several times without permanent benefit. A few drops of five per cent. solution were injected by means of a hypodermic syringe. This caused slight smarting, which lasted but a few minutes. The patient was kept in bed during the succeeding twenty-four hours. For a few days there was moderate sensitiveness on pressure over the hydrocele, but both swelling and pain rapidly sub-

sided, and by the twelfth day the tumor had entirely disappeared, leaving only a slight thickening of the spermatic cord at the side of the injection. Even of this no trace was left after the lapse of about five weeks. Should this method of treatment continue to yield good results in similar cases, Sanger believes that it might be cautiously tried in cases where there is a communication between the sac and the abdominal cavity, perhaps also in desperate cases of ovarian cysts, where a radical operation is, for one reason or another, not permissible.—*Centralblatt für Chirurgie*, July 23, 1881.

TRANSFUSION IN PROFUSE MENORRHAGIA.—Mr. T. Whiteside Hime has performed this operation with success in a sterile married woman, aged thirty-five. Menorrhagia had existed for five years, commencing from fatigue and severe shock during a catamenial period. The anæmia was very marked; the cervix uteri was conical, the os narrow; it was incised and the uterine cavity painted with a strong solution of perchloride of iron, but with little good effect. Mr. Hime drew six ounces of blood from the patient's husband, and, using a special transfuser, introduced the blood through the patient's medio-cephalic vein. During the process her breathing stopped; a drachm of ether was immediately injected subcutaneously, and artificial respiration employed; she rallied, and the transfusion was completed. This was done in November, 1878; since then menstruation has never been excessive. The transfusion was indirect, the blood being first whipped and defibrinated in a warm vessel, then strained into the apparatus, which is double-chambered, so that the blood may be surrounded by hot water. The blood runs, by gravitation, out of the apparatus, through an elastic tube, into the vein. The apparatus is very cheap, and can not easily get out of order.—*British Medical Journal*.

PALLIATIVE TREATMENT OF ANAL FISTULA.—In cases where patients refuse to submit to the forced dilatation of the anus, the most rapid and efficacious means of curing anal fistula, M. Mascarel proposes the following course of treatment, which has often proven successful:

1st. Each day administer an enema of tepid water containing a tablespoonful of glycerine.

2d. After each passage from the bowels introduce into

the same a small roll (meche) of charpie, well spread with the following ointment:

R_y. Ol. amygdal. dulc., ʒj
 Glycerine, ʒj
 Ung. althææ, ʒij. M.

3d. Before introducing the charpie into the anus anoint the parts just about with a thick layer of the ointment.

4th. If there is constipation, give daily five centigrams of powdered belladonna root. The fistula is generally cured after three or four weeks of this treatment.—*France Medicale*.

SUCCESSFUL TRANSPLANTATION OF HUMAN BONE.—The *Glasgow Medical Journal* informs us that at the meeting of the Pathological and Clinical Society of that city, April 12th, 1881, Dr. William Macewen showed a patient on whom transplantation of human bone had been performed, whereby over two-thirds of the shaft of the right humerus had been restored. The grafts were taken from six wedges of bone removed from limbs of patients affected with antero-tibial curves, and were reduced to very small fragments previously to insertion. The patient was formerly shown to the Society after the first graft had been completed, when there was a restoration of the upper part of the shaft, to the extent of one inch in length. Now, the shaft was completely restored, and the right humerus only measured one-half inch shorter than the left.

ARTIFICIAL VACCINE LYMPH.—*Mr. F. Lawrence-Hamilton*, 34 Gloucester Terrace, W., London, proposes, says the *Lancet*, to introduce an abundant supply of pure artificial lymph, produced outside the body of living man or living animal, by isolating, and then breeding the vaccine organisms in suitable germ nutritive solutions, which have been previously deprived of all septic and other noxious germs. The publication of the special precautions and physical conditions, which Mr. Lawrence-Hamilton considers necessary to secure safety and success in breeding, and then in employing, the artificial vaccine lymph, as well as the results of inoculating men, cattle and other animals therewith, will be postponed till a subsequent date.—*N. Y. Med. Jour. and Obst. Rev.*, Aug., 1881.

NEURALGIA.—The London *Lancet* says that neuralgia indicates a low or depressed state of vitality, and since

nothing so rapidly exhausts the system as pain that prevents sleep and agonizes both body and mind, it is of first moment that neuralgia incidental to and indicative of a poor and weak state should be promptly placed under treatment, and, as rapidly as may be, controlled.

It is worth while to note this fact because, while the spirit of manliness incites the strong-minded to patient endurance of suffering, it is not wise to suffer the distress caused by this malady, as many do, without seeking relief; for it should not be forgotten that the pain of neuralgia is a warning sign of constitutional danger.

EFFECTS OF EXCISION OF THE SYPHILITIC CHANCRE.—M. Mauriac reports (*Gazette des Hopitaux*, 1881, No. 7, 10, 14) seven carefully recorded cases in which he excised the initial lesion of syphilis. In six, excision was performed at periods varying from sixteen to eighteen days after the appearance of the sore. In the seventh case, the initial lesion was excised about fifty hours after it had been first noticed, and before there was the least trace of glandular enlargement; but in this, as well as in all the others, the operation was unsuccessful in preventing further development of the disease.—*London Medical Record*, June, 1881.

SUGGESTIONS AS TO THE MODE OF USING THE FORCEPS.—Dr. H. Lowndes deduces four rules as the result of his experience: 1. Traction should be made in the intervals, instead of during the pains. 2. When traction is not being made, the handles of the forceps should be allowed to lie as far apart as they will. 3. During the pains the handles should be merely gently managed so that they may not be expelled or do hurt. 4. During the passage of the head through the vulva the forceps should be used when necessary as a restraining power during the pains, and labor completed by traction during an interval.—*Brit. Med. Jour.*, July 9th.

I HAVE for over twenty years introduced the forceps into the uterus. The first case was a primipara, aged 22, in labor seventeen hours. The os was not bigger than a crown piece, but dilatable, the brim narrow. The forceps were tried as a last resort before craniotomy. Having applied it, I kept the forefinger of the right hand in the os to watch it and made careful traction with the left, and

succeeded in delivering the woman of a living male child. The mother made a good recovery. I have done so many times since, in common, doubtless, with most practitioners.—Dr. M. Williams, *Brit. Med. Jour.*

POTASSIUM BROMIDE IN ORCHITIS AND INFLAMED BREASTS.—J. Grammer, M. D., says that when consulted in time he finds nothing else necessary either in orchitis or milk-breast but potassium bromide in five-grain doses three times a day, or smaller doses more frequently repeated. In advanced or complicated cases a course of auxiliary measures should be used if only as a precaution or to expedite the cure; but he has never had the bromide to fail him even when used alone. In orchitis a suspensory should always be worn. In some of these cases he has seen the disease held in abeyance for weeks, when the patients would persist in the grossest imprudence in walking and horseback riding. He rarely restricts them in diet. Yet even these cases eventually recovered, without suppuration or atrophy, neither of which results has he seen since he has used this remedy. He has had no opportunity to test it in the metastatic orchitis or mumps, but is sure it will prove as useful here as in the ordinary cases; and though the inflammation is specific he expects to find the remedy efficient in the next epidemic of parotiditis he may meet with.

Dr. Grammer has seen but one case of mammary abscess since he commenced the use of the bromide of potassium for such cases, and that case occurred not long ago. The abscess had already pointed when he first saw it. He opened it and prescribed potassium bromide (two grains) every three hours during the day, and in less than a week her husband reported the patient well. This, however, was not a fair test of the effect of the bromide on a mammary abscess, for there was no infant to complicate or irritate the inflammation. It was to Dr. Grammer a unique instance of the secretion of milk during pregnancy. The woman was four or five months advanced with her fourth child, and she stated that being habitually rather irregular she always recognized her pregnancy by the appearance of milk, the secretion of which thenceforth continued.—*Virginia Med. Monthly.*

CONSTIPATION.—Dr. S. H. Price (*Medical Brief*, March, 1881) says the following combination has never failed to relieve constipation, in his experience, when the person is otherwise healthy:

| | | |
|----|-------------------------------------|---------|
| R̄ | Ext. cascara sagrada, fl, | f. ʒj. |
| | Tr. nuc. vom, | f. ʒij. |
| | Ext. belladon., fl, | f. ʒss. |
| | Glycerine, | f. ʒj. |

Sig.—Teaspoonful night and morning, as necessary.

He has used this in all ages, from the three weeks infant to the octogenarian, changing dose to suit age.

BOOK NOTICES.

A MANUAL OF OPHTHALMIC PRACTICE. By Henry S. Schell, M. D., Surgeon to Wills' Eye Hospital, and Ophthalmic and Aural Surgeon to the Children's Hospital. With 53 Illustrations. 12mo. Pp. 263. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co.

The object of the writer, in the present work, as he states, has been to state briefly the generally accepted principles of ophthalmology, and to describe those methods of treatment upon which he has become accustomed to rely, from personal experience of their value. It is well adapted to the wants of students. It is of small size; but as nothing is omitted necessary for the full understanding of any subject, students will regard it all the more acceptable in consequence of its not being large. The omissions consist in restricting the allusions to authorities, not entering upon the history of the sciences, and passing by other subjects, that, if treated, would distend the size of the volume, but would add nothing to the practical value of the work.

The work is divided into twenty chapters, in which are treated all those affections of the eye which the general practitioner will be apt to meet. The first chapter is devoted to describing the anatomy and physiology of the eye. In the second chapter are treated the affections of the eyelid, which are discussed in a very lucid and satisfactory manner. In the other chapters are considered at length the disorders of the lachrymal apparatus, disorders of the conjunctiva, affections of the ocular nerves and muscles, diseases of the cornea and sclerotic, of the iris;

choroid, and ciliary body; of the crystalline lens, of the retina and optic nerve, etc. The student and young physician will find the principles involved in the treatment of ophthalmic diseases well explained, so that when left to themselves with actual cases, the difficulties attending upon diagnosing will be greatly removed, and confidence imparted in selecting appropriate remedies. By procuring a small work like this one, and studying it well, it would very often be rendered unnecessary to send cases to a specialist.

LANDMARKS, MEDICAL AND SURGICAL. By Luther Holden, ex-President, Member of Council, and Member of the Court of Examiners of the Royal College of Surgeons of England, etc. Assisted by James Shuter, M. A., Camb. F. R. C. S., Assistant Surgeon to the Royal Free Hospital, late Demonstrator of Physiology, etc. From the Third English Edition. By Wm. Keen, M. D., Prof. of Artistic Anatomy in the Pennsylvania Academy of the Fine Arts, etc. 8vo. Pp. 148.

The object of this small work, as stated in the preface, "is to collect into a compact form the leading landmarks which help practical surgeons in their daily work." By "landmarks" are meant surface-marks, such as lines, eminences, depressions, which are guides to, or indications of, deeper-seated parts. An individual might be a very good anatomist, and yet when called upon to mark out upon the living subject the position of the heart and the several valves at its base; to compress effectually one of the main arteries, and chalk the line of its course, etc., he would find it quite difficult to do so. By means of the instruction afforded in this little volume, it is expected that the medical student who studies it, will become so expert in living anatomy that he can trace upon the living body the precise position of any part.

We will give an illustration by copying from page 84 the "landmarks" of the operation of *Colotomy*. "They are (1) the last rib, of which feel the sloping edge; (2) the crest of the ilium; (3) the outer border of the 'erector spinæ.' The incision should be about three inches long, midway between the rib and the ilium. It should begin at the outer border of the 'erector spinæ,' and should slope downward and outward in the direction of the rib. The edge of the 'quadratus lumborum,' which is

the guide to the colon, is about one inch external to the edge of the 'erector spinæ,' or three full inches from the lumbar spines. The line of the gut is vertical, and runs for a good two inches between the lower border of the kidney and the iliac crest on the left side; rather less on the right."

THE PHYSICIAN'S CLINICAL RECORD FOR HOSPITAL OR PRIVATE PRACTICE. With Memoranda for Examining Patients, Temperature Charts, etc. Philadelphia: D. G. Brinton. Cincinnati: R. Clarke & Co.

THE PHYSICIAN'S DAILY POCKET RECORD. Comprising a Visiting List, Many Useful Memoranda, Tables, etc. By S. W. Butler, M. D. Sixteenth Year. New and Thoroughly Revised Stereotyped Edition, with Metric Posological Table, etc. Edited by D. G. Brinton, M. D. Philadelphia: Office of Medical and Surgical Reporter. Cincinnati: R. Clarke & Co.

Both of these works proceed from the office of the enterprising *Medical and Surgical Reporter*. The first of the two undoubtedly "fills a want." By means of it, a physician can keep a daily record of the chief symptoms of over a hundred of his principal patients, in a book of small size, quite convenient to be carried around all the time in the pocket. Two pages, facing one another, are designed for a patient. There is a blank space at top for name and address, age and color. On the left-hand page there are perpendicular rulings, leaving space for date, pulse, temperature, a space of double size for "other symptoms—urine, bowels," etc. The right hand page is entirely blank, without ruled spaces by perpendicular lines. This page is for "Treatment and Remark," which words are printed at the top. At the back part are temperature charts.

The work will be found highly convenient in keeping daily accurate and brief records of important cases. And it facilitates matters in such a way that the time and labor is not felt.

The other work whose title is mentioned is the "Visiting List" first devised by the late Dr. S. W. Butler, and improved by Dr. Brinton. Its main features are similar to those of other visiting lists. It has, like its contemporaries, ruled pages for charging visits, and recording office practice. Also pages for memoranda of births,

deaths, vaccinations, cash accounts, etc., etc. A feature in this list we admire very much is the small amount of reading matter. It is very light and convenient, substantially bound, with good spring clasp. At the front is a perpetual calendar.

A HAND-BOOK OF UTERINE THERAPEUTICS AND OF DISEASES OF WOMEN. By Edward John Tilt, M. D., Past President of the Obstetrical Society of London, etc. Fourth Edition. 8vo. Pp. 328. New York: Wm. Wood & Co. Cincinnati: H. Stacey.

This volume constitutes the eleventh or November number of "Wood's Library of Standard Medical Authors," and it would seem that as the year's issues draw to a close, the better they are. There is no gynecologist, either in England or America, of higher standing than Dr. Tilt. He is the author of a number of works, and they are all held as standard ones.

The work before us will be found to be a very complete work on those diseases of which it treats, and will add very much, indeed, to the value of Wood's Library for the year now closing. By the terms of subscription—twelve volumes, we believe, for fifteen dollars—this work costs subscribers but \$1.25. If published by itself, without reference to its being subscribed for in conjunction with several other works, the price would not be less than five or six dollars. It will thus be seen the great advantage derived in subscribing for "Wood's Library of Standard Medical Authors." There is secured standard works of the greatest value at low prices never heard of before. This mode of publishing medical books will be a great boon to physicians whose limited means do not allow them to spend much for books.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M. A., M. D., F. R. S., Prælector in Physiology and Fellow of Trinity College, Cambridge. Second American from the Third and Revised English Edition. With Extensive Notes and Additions. By Edward T. Reichert, M. D., Demonstrator of Experimental Therapeutics, University of Pennsylvania. With 259 Illustrations. 12mo. Pp. 987. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: R. Clarke & Co.

As a college text-book upon physiology the work be-

fore us is undoubtedly the best publication. Although valuable to the physician as a work of reference and to refresh the memory, it has been more especially prepared for students, and it fulfills their wants as nearly, probably, as any work could be made to. In both England and America it has become exceedingly popular since its publication, and is now *par excellence* the student's text-book in the branch of medicine to which it belongs.

The present edition, which has been prepared with great labor, will, no doubt, add much to the popularity of the work. Numerous changes and additions have been made. The text has not only been carefully revised, but some parts have been rewritten. All recent advances in experimental physiology have been added. The American editor, by his labor, has made the work more thoroughly adapted to the wants of the American student. He has added many details which the author had omitted from premising a knowledge of them by the student, but the absence of which tended to render many parts vague, and proved a serious drawback to the book. Besides adding a good many notes to supply deficiencies, he has introduced a large number of illustrations.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

As in our last issue, also in this number of the MEDICAL NEWS, we are under the necessity of leaving out considerable matter. A number of communications from writers are deferred to another time. Also a number of book notices have to be omitted. The Microscopical Department is unusually brief, not from any deficiency of material, but because we have not space.

STATE BOARD OF HEALTH.—A bill has been prepared to be presented to the Ohio Legislature this winter for adoption creating a State Board of Health. We had intended to have copied it entire in this number of the NEWS, but want of space prevents. It is a very good one, and we really hope it will pass. The author of it, we understand, is our friend, Dr. R. C. S. Reed, near this city. It is printed at length in the *Ohio Medical Reporter*.

We will mention that it proposed that the Board of Health consists of nine physicians residing in different parts of the State. It is to supervise the health interests of the State: Also attend to the registration of marriages, births, deaths, and all forms of disease prevalent in the State—preparing blank forms for the same.

Section nine we quote at length, as it is especially interesting to physicians:

“Every person proposing to engage or to continue in the practice of medicine in this State shall, within thirty days after the organization of the State Board of Health provided for in this act, present to said Board for verification and record a diploma from a reputable and legally organized medical college, or an affidavit or other satisfactory evidence that the applicant is a graduate in medicine or has been in the continuous practice of medicine in this State, for at least ten years preceding the passage of this act, whereupon the State Board of Health shall give to such applicant a certificate stating the facts as to graduation or continuous practice, to which shall be added the name of the county in which the applicant proposes to locate or is located, which certificate shall be recorded by the County Clerk in a book to be provided by the

County Commissioners, and kept in the office of the County Clerk, and this certificate shall be conclusive evidence of the right of the lawful owner of the same to practice medicine in and from the place designated in said certificate, and without such certificate and record it shall not be lawful for any person to practice medicine in this State. And any one who prescribes, or prescribes and furnishes medicines to the sick for a consideration, shall be held in the meaning of this act as engaged in the practice of medicine."

There are some other features of the bill which we have not space to detail at this time. Nor have we room for any criticisms. What remarks we have to make we will do so at another time.

READING PHYSICIANS.—The *St. Louis Medical and Surgical Journal*, in an editorial article in its December issue, states that, in the Western and Southwestern States, there are a little over 26,000 physicians. From its agents, it learns, that scarcely one-half of these take a medical journal of any kind; and that one-half of those that do take a medical journal of some kind, take only an Eastern publication of the cheapest kind, so cheap, indeed, that the thing will be sent whether it is paid for or not.

This is a most disgraceful exposure of the profession; and if it were not that our own knowledge of medical men tends to confirm the truthfulness of it we would be disposed to controvert its accuracy. The observation of one person is not of much value in consequence of the necessarily narrow limits to which it is confined, and, therefore, we have been disposed to consider the great mass of the profession throughout the country more intelligent than they would be if rated by our experience. Judged from our standpoint of observation, the *Journal* has not exaggerated in its statement.

The profession of medicine is styled one of the *learned professions*. But when we come to contemplate the disgraceful ignorance of a large portion of its members, would it not be more consistent to regard it as one of the *ignorant professions*?—as a mere calling in which not only not any learning is possessed, but not even mediocre intelligence? How astonishing is the consideration that of 26,000 physicians not one-half take a medical journal of any kind; and of those who permit a medical periodi-

cal of some kind to be sent them, one-half pay nothing for it, and, consequently, it is probable that a large portion of them do not read it; for a person will not spend much time on anything that he does not value enough to give anything for it! We are confident that very few have correct notions of the profound ignorance that prevails at the present time among the members of the medical profession.

If the statements of the *St. Louis Medical and Surgical Journal* are correct, and we confess that they are borne out by our observations, a very large number of physicians do not, in their qualifications to practice, fulfill the requirements of the law. The law requires a physician, as it does a mechanic, to possess ordinary skill in the practice of his art, and to be able to bring to bear, in treating his patients, all new and improved means of cure, as they are discovered, or become evolved, in the onward progress of medicine as the result of constant research by laborious investigators. But how can a doctor bring to his patient's aid in recovering from disease the new discoveries that are constantly being made in every department of medicine when he takes no medical journal in which all such are recorded? Almost every day new remedies are found, or old ones put to new uses. Pathologists are continually disclosing facts never before known; new and more accurate observations are being made of diseases. In a thousand ways is progress going on. There is no standstill in this world in anything, and certainly not in medicine. Such being the case no practitioner of medicine can fulfill the requirements of the law, if he is not a constant and industrious reader of the medical literature of the day. If the laity were a little better posted in regard to the remissness of many of the so-called doctors, and understood a little better what was essential on the part of their medical attendants to be properly qualified to practice medicine, we are of the opinion that far more prosecutions would be instituted than are at present.

When the illiteracy of so many practitioners of medicine is considered, and also the extreme ignorance of everything pertaining to medicine, we are almost disposed to scoff at the idea of terming the profession of medicine one of the learned professions; but when we come to consider the qualifications necessary to be possessed by

the true physician, we restrain our disgust. A little reflection shows us that he must be a student of nature in its widest sense. No mere vendor of pills, lotions, potions and nostrums generally is what makes up a physician. A physician is one who holds a higher position than that. He has deeply studied his fellow-man physically and mentally, and has learned from his researches what constitutes health, and in what consists disease. He has industriously studied the causes of disease. He has delved deeply into the mysteries of them, and by means of his discoveries, he has ridden men of much of their debasing superstitions, which for thousands of years had been enslaving their minds. More than any other class of men physicians are natural scientists, for they have more to do with the laws of nature. For in proportion as they are developed does the science of medicine make progress. As progress is made in knowledge of the natural sciences, so progress is made in understanding what pertains to health and disease—how the former is best preserved and the latter warded off.

But we must cut our remarks short, for we did not set out to write an article on the ignorance of the large mass of physicians. Although it is true thousands are woefully ignorant, yet we can state with pride that numbers of the most learned men in the world are medical men. While the ministry has more of general culture, yet in medicine there are far more men of distinguished learning. When compared to men of the legal profession, notwithstanding the woful ignorance among them, physicians have no occasion to blush. Surely the moral tone of the latter is far better than that of the former.

It is alleged, and no doubt with great justness, that the community is largely responsible for the ignorance of physicians; for that the quality of the supply will be in accordance with the demand. When people have progressed themselves so as to require that physicians shall be men of intelligence and learning, before intrusting their lives with them, there will then be raised up an educated class of medical men, and not before. Medical colleges may be assailed and abused for their loose requirements of graduation, but physicians will continue to be ignorant until the community take the matter in hand, and refuse to patronize any but educated men.

"The proper study of mankind is man," says a distin-

guished writer. There is no doubt but that the study of man is the highest study; and as that study belongs to the physician more than to any other person, we will always find among physicians the most learned men, even if there are among them the most ignorant.

SPECIALISTS.—Dr. J. Russell Reynolds, the editor of Reynolds' "System of Medicine," thus speaks of specialists:

"If you ask me what I mean by specialism, I should say: It is a morbid condition of the mind—of physician or surgeon, as the case may be—which shows itself in his regarding every patient who comes under his care as a sufferer from the particular disease which he has studied; of seeing the symptoms only from the point of view which he has assumed, and made quite clear—to himself—and of treating it in a manner which no one like himself understands; and of treating it to the utmost degree of attention, frequency, and specialty of treatment that his patient's patience will endure."

While we are not disposed to view specialists with as much disfavor as Dr. Reynolds, we, nevertheless, consider that there is a tendency to carry specialism too far. The excess of it leads to excessive refinement, if the term be correct, in treating diseases—differentiating where there are really no differences, confusing the nosology of diseases, separating symptoms that belong together in a single disease, and creating new ones. At the present time, there are more diseases of the eye treated in works upon ophthalmology than Cullen supposed the whole body was liable to. As a consequence, medical literature has really become enormous. Books are legion. The diseases of the throat alone have more works published devoted to them than all the diseases of the body had seventy-five years ago.

HYGIENE OF INFANTS.—Dr. J. G. Richardson, of Philadelphia, recently read a paper before the *Committee on Medical Charities* on the subject of the hygiene of infants. We copy a few of his statements:

He remarked that the hygienic care and management of infants might seem to some of minor interest; but when we consider that the great business of each generation upon earth is to produce and nurture its immediate

successor, it becomes obvious that no department of sanitary science surpasses this one in importance. The newborn child has a most sensitive organization, and it is worthy of our best energies to protect its life, foster its growth, and promote its fullest development during the first five years of its existence. Without the best hygienic management of infancy, childhood and youth, and that best adapted to climate, it is not possible to secure a nation of healthy, vigorous minds, in sound, well-developed bodies.

The value of judicious sanitation in infancy was brought before the French International Hygienic Congress held in 1878, in which he participated. The conclusions reached in regard to the minimum mortality of infants were, that in a healthy country, with a cool or temperate climate, any rate of death exceeding 90 or 95 per 1,000 for the first year of life was due to accidental causes, avoidable by hygienic measures, plainly within their power. Also, that the mortality may be further reduced under the best social conditions to 75, or even 70 deaths per 1,000 during the first year of life, a minimum which has actually been attained among the children of the English nobility, and one toward which we in Philadelphia, the "city of healthy homes," should strive to approximate more nearly with each succeeding year.

LACTOPEPTINE.—This preparation has been before the profession for a long time, and scarcely needs any commendation from us. However, as we have frequently experienced very great benefits from its use, we have felt it incumbent upon us to speak of it. It possesses five of the most active agents of digestion in combination with sugar of milk, and it can not be otherwise than that it is a very efficient remedy in quite a number of affections. Those of our readers who wish to study its properties should make application to the New York Pharmacal Association, whose advertisement appears on back of cover, for facts. The company will, no doubt, favor them with the results of the investigations of distinguished gentlemen who have thoroughly examined and made use of Lactopeptine.

